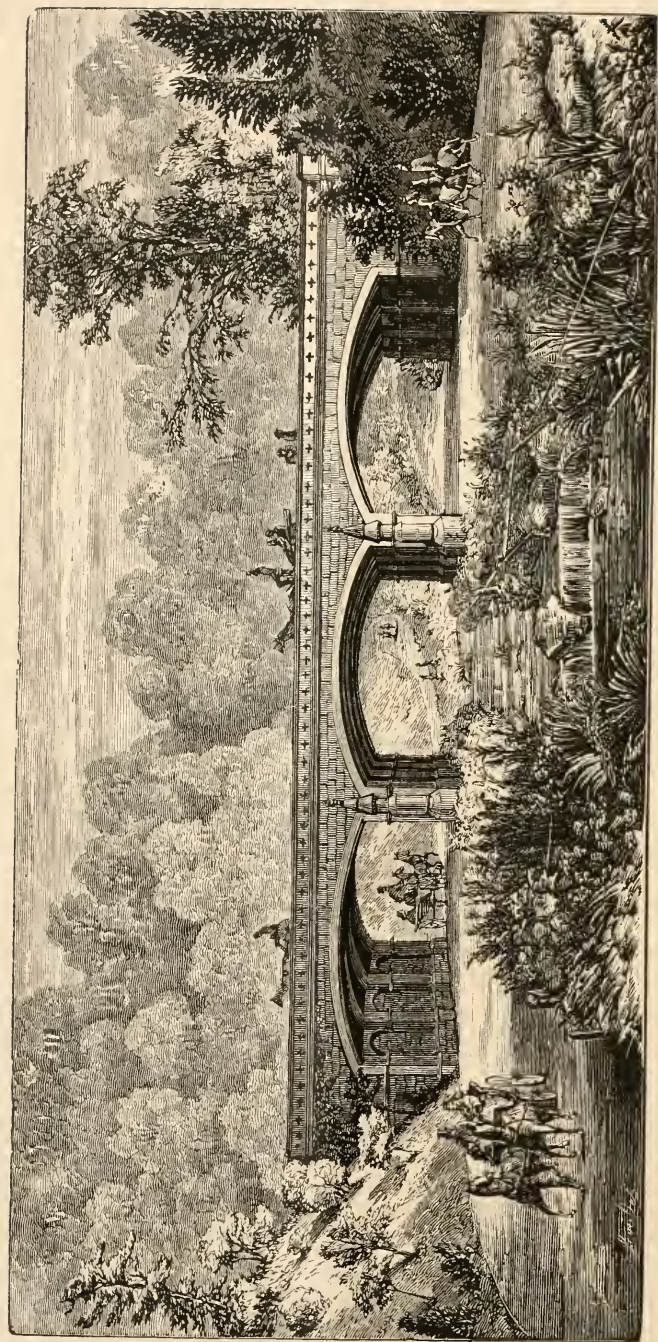


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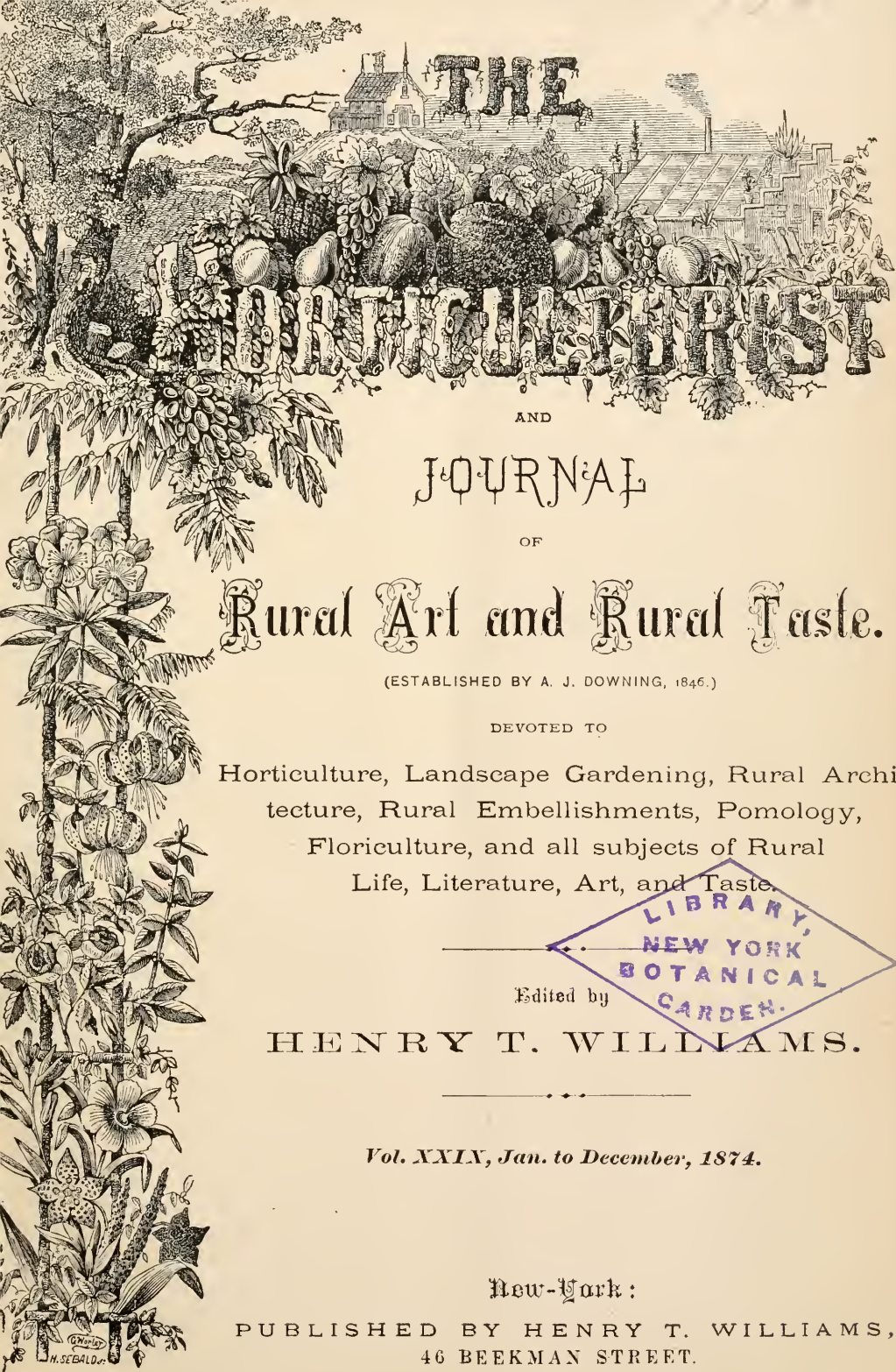




ARCHES, OVER STREAM NEAR LULL WATER, PROSPECT PARK, BROOKLYN, N. Y.







THE
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A Glance at the Past and an Editorial for the Future.

BY JOSIAH HOOPES.

WITH the advent of the glad New Year, we cheerfully perform the annual duty of turning over the leaves of our volume just closed, as we have done many and many a time before, so that the mistakes and errors, which somehow mysteriously creep in, may be avoided in the future.

As we lean back in the old editorial chair and allow full license to our thoughts, the the whole lifetime, as it were, of the Horticulturist passes in array before us.

We recall vividly its host of brilliant writers, many of whom, including him who wrote its first line, have now passed from earth to their reward, yet the legacy which they bequeathed to us is yet unaccomplished; yes, and will be for all coming time.

We turn to the pages where a Brinckle and a Longworth, with all their deep enthusiasm and love for the beautiful, have recorded their labors for the benefit of us who survive them; and where, too, the magic pen of Downing himself graces the opening

of each monthly number, those charming essays, world-wide in their popularity, and which taught his readers to regard him as a friend, whether differing from his views or not.

And, as we glance over all these lines that we have so often read before, our memory brightens with the same old-time feeling of pleasure that gladdened us as we perused them fresh from his almost inspired pen.

But we can see no cause for discouragement on the part of his successors, for, although our efforts may be divested of that captivating style, which, like the fragrance of the violet, was inherent in him, a gift from his Maker, we are still aware that a great work remains undone, and it is our task, as it should be our pleasure, to follow the line of duty that he so beautifully portrayed.

And now, what have we learned since the initial number of our journal went forth on its peaceful mission? Are we to-day the wiser for its teachings, and can we honestly

say that our pursuit is any more systematic than it was twenty-seven years ago? True, we have, and are yet, continually learning in the great school of experience. How else could it be otherwise?

And, although we are far, very far, from perfection, a point that we may very readily believe will never be reached, yet any one, be he ever so obtuse, must feel that he has not lived in vain, and that new truths must inevitably be discovered, when daily personal labor in one's own garden is the rule of life.

Systems change, and varieties that were good in their day change with them. Still, others rise to take their places as regularly as the planets revolve in their orbits; so that, in a long succession of years, we find that we have not suffered, neither are we any nearer perfection than when we first learned to love our occupation.

In the place of the White Doyenne Pear, we now plant the Bartlett. Apples vary in different localities, as they did in the past, although that fine old variety, the Newtown Pippin, has now very nearly finished its course. Instead of the old Morris White and Melocoton, we have the splendid Crawfords, with varieties earlier and later than ever before, and in this we have made a gain.

The Green Gage Plum has, perhaps, not found a successor in point of flavor, but it certainly has in size and beauty.

Where the Catawba formerly reigned supreme, we now grow the Concord for the million; a sacrifice of quality, but an increase in productiveness and reliability.

Among the small fruits, we have now substituted the Wilson's Albany for the old-time Hovey's Seedling Strawberry, and the host of hardy raspberries for those of tender proclivities, still another sacrifice of quality for hardiness and profit. Blackberries are now added to our list of cultivated fruits, when formerly we were content to gather the wild, inferior specimens from our fence corners. In gooseberries, we have not made great improvements, yet we believe the few new seedlings of late will prove to be the

forerunners of a new race, at once hardy, reliable and worthy of the dessert. Currants, too, have been neglected for several years, so far as the introduction of new varieties is concerned; and now for a recapitulation:

We formerly had, as standards of excellence, the *Newtown Pippin* among apples; *White Doyenne* and *Seckel* in pears; *Green Gage* in plums; *Coe's Transparent* and *Belle de Choisey* in cherries; *Grosse Mignonne* and *Morris White* in peaches; *Catawba* in grapes, etc.; and we would ask that, for the last quarter of a century, where are all our boasted improvements in quality over these?

Let us inquire whether popular opinion has not retrograded somewhat in this respect, and substituted in the place of flavor a desire for mere outward appearance and productiveness? In other words, are we not giving the preference to such varieties as will please the pocket, rather than the palate? We greatly fear that the majority of our orchardists are drifting in that direction, and although they may not be cultivating the taste of the masses to a higher standard of excellence, they are performing a very creditable work by increasing the demand for the most healthful of all articles of food, whilst supplying it at a constantly reduced rate.

The systems of cultivation, as we said before, have changed, but new diseases and the presence of new destructive insects have had their influence in bringing it about. Therefore, as a natural result, new methods of culture had to be adopted, and improved plans for the routine of the orchardist were put in practice; that such answer a better purpose, or secure for us a greater result, than formerly, is a question that we are not now prepared to answer.

Two prominent parties espouse the opposite extremes, the one taking for its motto—"there is nothing new under the sun;" the other, that we are making astonishing strides. Each may be right in one sense, and yet each may be wrong when we view it from another standpoint.

In the ornamental department, all must acknowledge that we have progressed in a wonderful manner, not only in the methods of laying out lawns and gardens, but in the variety of trees and plants of quite recent introduction.

The use of sub-tropical plants, so called, creates a wonderful change in the effect of our gardening operations; and the introduction of a class of tender plants for bedding-out during the summer months, such as the *Coleus* and *Alternanthera*, have instituted a new and entirely distinct feature.

All of the old class of florists' flowers have undergone a change for the better. Take, for instance, the Geranium. What an endless profusion of varieties we now have, even producing the bloom as double as the *Ranunculus*, and of almost every color. The *Fuchsia*, too, improved with white and double corollas; and lastly, glance at the list of *Roses* recommended in the opening numbers of our journal, and compare such with the leading varieties of to-day.

Where is the end to such improvement, and how long can we go on adding new colors and increased size to this "Queen of the parterre?"

The patrons of the esculent vegetable department tell us that the new varieties here are introduced so rapidly that they find it impossible to test them all, and that where, in former times, some vegetables matured

all at once, now the season has become so lengthened as to afford a supply for the table all summer long.

Such in brief is a summary of the past as compared with the present, and the moral of it all is, that, to succeed in our work, we must bring to the task a determination to investigate what has been termed the mysterious operations of nature, and turn them to account.

Let us carry on our investigations in a proper spirit, with a full understanding of nature's laws relating to the growth of plants, and never in any case jump at hasty conclusions. In the testing of new varieties, bear in mind how many of us condemned the Concord grape when it was first brought out; and, later yet, how nearly the Black Eagle cherry came to being forever lost by one season's trial of the fruit. Then shall we be on the correct path to improvement, and confer countless blessings, not only on ourselves, but on our fellow-laborers, wherever they may be found; for, in helping others, we help ourselves, both directly and indirectly.

In wishing our readers, one and all, a happy New Year, allow us to hint that in no way can they make *our* New Year happier than by giving us the benefit of their experience in the orchard, lawn and garden, so that we may in turn help others, who have never enjoyed the same opportunities for gaining practical information.

New Roses.

BY C. P. HAYES, PHILADELPHIA, PA.

IN the enterprise displayed by nurserymen, horticulturists and florists of our country, in importing, and their skill in raising, all the new and choice varieties of plants grown in Europe, few only have given their attention to that beautiful "Queen of Flowers," the Rose, and within a very recent date only, a very limited number of new and improved varieties added. The grand displays in London and other cities in Europe of recent date, and the special attention given

to the growing of new seedlings, has proven that the Rose is susceptible of as great improvement in beauty of foliage, habit, vigor and delicacy of color as other plants. The great and most successful growers of Europe, such as Verdier, Lacharme, Levet, Margottin, Guillot, Schwartz, Wm. Paul, Paul and Sons, Ducher, Pernet, Gonod, Bradel, Damaison, Soupert et Notting, Liabaud and others, have added to their fame, in a few years past, by producing from seedlings the

most charming flowers, some of whom grow annually fifty thousand seedlings, and from these select only a few which they will send out as worthy of special growth and merit. From more than 300 new varieties imported by us from introductions since 1870, it would require too much space to name the beauty and merits of most of them, but will at present mention only a few that we have grown and flowered successfully, and can speak of their merits. The following Teas, importations of 1873, promising well, are :

Ma Capucine (*Levet*), a beautiful apricot yellow, free flowering, medium in size, and color very distinct and new, and will certainly be an acquisition to bouquets.

Le Nankin (*Ducher*), a charming rose, large, full and well formed ; a rich, coppery yellow.

Henry Lecoq (*Ducher*), a perfect rosy fawn color, fine size, with long petals, forming a long and beautiful bud, and certainly bids fair to be a favorite of bouquet-makers.

Souvenir de Paul Neron (*Levet*), fine salmon yellow, edged with rose, large flower, and free blooming.

Madam Jules Margotten (*Levet*), a very delicate pink, tinged with yellow, free flowering and beautiful form.

Comte de Grevel (*Levet*), a very light straw color, very free flowering and very sweet.

La Jonquille (*Ducher*), a small flower, the deepest yellow yet introduced, fine in bud, good for bouquets.

Marie Van Houtte (*Ducher*), white, slightly tinted with yellow, petals edged with rose ; an exquisite rose of free growth.

Annette (*Seaut*), large, deep orange yellow, changing to white ; fine for bouquets.

Bianqui (*Ducher*), a pure white, profuse bloomer.

Madam de Narbonne (*Pradel*), large flowers, bright yellow, very pretty.

Madame Camille (*Guillot*), a free blooming, delicate salmon pink, large and full, and cupped flower.

Jeanne D'Arc — Beautiful clear yellow, abundant bloomer and fine form, exceedingly prolific in blossoming.

The following Teas, importations of 1871 and 1872, are of superior quality and vigorous growth :

Madam Trifle—a large double, salmon yellow ; growth very vigorous.

Madam Celina Noirey—rose color, large and full flower, immense bud, free bloomer, dark green foliage ; very vigorous.

Madam Berrard—Beautiful clear rose color, shaded delicate yellow, rapid grower and good habit.

Madam Ducher—clear yellow, large and full, and abundant bloomer.

Coquette de Lyon—canary color, medium in size, fine form and very beautiful.

Madam Azelie Imbert — full and fine formed, salmon yellow ; growth vigorous.

Hortensia—large flower, with white petals shaded to a beautiful rose color ; fine form.

Those last named are robust and vigorous, and well suited for forming beds on lawns or gardens, requiring in our climate only slight protection during the winter.

Of the recent importations of Hybrid Perpetuals, we have found the following deserving of special merit :

Feliceau David (*E. Verdier*), a beautiful deep red, shaded with violet, changing sometimes to a deep rose color ; very vigorous and free flowering.

MacMahon (*E. Verdier*), a fine, deep rose color, with expanded sepals, foliage very deep green, very vigorous and free flowering.

Coquette des Blanches (*Lacharme*), a large, white, globular rose, very vigorous and a great acquisition.

Perle des Blanches (*Lacharme*), another beautiful pure white, smaller in size, well formed and very vigorous grower.

Madame Lacharme (*Lacharme*), a superb white, shaded with rose, changing to a pure white ; one of superior merit.

Andre Dunant (*Schwartz*), a charming pink, with light silvery edges ; fine form.

Baronne Louis Uxkull (*Guillot*), a beautiful carmine rose color, finely cupped, very sweet and free flowering.

Etienne Levet (*Levet*), carmine of great beauty, free flowering and fine form.

Pierre Izambert (*Gantreau*), deep velvety crimson red, petals beautifully recurved, full, large and of vigorous growth.

Madame George Schwartz (*Schwartz*), a superb rose color, very beautiful, free flowering, and one of the best new roses out.

Alexander de Humboldt—deep red, petals edged with white, flowering abundantly, and robust in growth.

Candide—large and full, rose of a delicate flesh color, changing to white; very attractive.

Madame Poignant (*Pradel*), a beautiful bright rose color, very free in flowering, very fragrant, and a delightful rose.

Enfant de Chatillion—a beautiful redish

purple, of fine form, and very free flowering, and vigorous growth.

Mrs. Laing (*E. Verdier*), a bright carmine rose color, elegant dark green foliage; a superb rose of vigorous growth.

These are a few only of the flowers from importations of last spring, and I cannot say as yet they excel in beauty some of those of 1871 and '72, some of which have blossomed for us for two years, and several we thought only ordinary proved, last year, to be indeed charming flowers of the most brilliant colors, whilst others were as delicate in their rosy hues as the choicest Teas, such as Madam La Baronne de Rothschild, Marquise de Castellane, Princess Christian, etc., though retaining all the hardy qualities of the old varieties.

Growing Callas.

BY EBEN E. REXFORD.

NOT long since I was at a friend's, and, on going through her conservatory, was much struck with the luxuriant growth of a Calla. The leaves were borne on stems three feet or more in length, and *such* leaves! I never dreamed that Calla leaves *could* grow so large before. They were of the richest green, too; and everything about the plant indicated that it was in the most perfect health. It had one bud, on a stalk three feet long, which was as large as my Calla buds had ever been when they had attained full growth, and were ready to unfold; and *this* bud was hardly half matured, thus giving promise of becoming an immense flower if nothing happened to prevent its developing.

I asked the secret of such magnificent success in Calla growing, and my friend told me in what it consisted. In June she takes her callas out of doors, and turns the pots containing them over on their sides under a tree, or in some shady place, and there she leaves them through the hot summer months, giving them no attention whatever. Of course the old leaves die and fall off, and the earth in the pots bakes into the consistency of brick; one would think such harsh

treatment would be the death of a flower, but, on the contrary, the Calla likes it. In September she brings the pots in, and begins to give the plants water. A very short time suffices to start them into growth. As soon as the leaves appear, she makes the water quite warm. The result is, that her Callas are superior to any I ever saw before. She boasts on having larger flowers than any one else, and, judging from the size of the half matured bud I saw, she has foundation for saying so. She tells me that her Callas are never without flowers through the winter, often as many as four or five open at once. She never removes the new ones which form about the old plant, but, as they grow, shifts the plants into large pots.

I have seen so many sickly, spindling Callas that I want to have my friends try this method; I am trying it; I put mine out of doors last summer, and brought it in two months ago, and it is flourishing finely. It is an easy plan to try, and I am sure it is a successful one. I ought to have said before that my friend's conservatory is heated from a stove in the sitting-room, therefore this treatment will apply where only a few house plants are kept, and steam-heating is not used.

A New White Grape.

SPECIMENS of a new and promising white grape have been forwarded to us, from S. J. Parker, of Ithaca, N. Y., which seem to possess very desirable characteristics. The berry is pure white—with little or no bloom, medium size; bunch small, but compact, berries hang well to the stem; long stem, apparently productive; skin quite tough, berry very tenacious in holding to the bunch, sweet as the Delaware, no musky-quality; fully equal to Rebecca in general characteristics of flavor, but larger bunches. It might be called the White Delaware, for it seems to possess many of its characteristics, although the bunch is uniform, not shouldered. It is a seedling originating with Dr. Parker, and is as yet unnamed—though sometimes called *The Ithaca, or Tucker's Parker Grape*.

The Doctor in his letter to us, communicates the following information of its success in Central New York: "It smells of the rose, rather than the fox, is sweet for so poor a year—large as common Isabella (Ed., does not seem so to us), like the Delaware in bunch, early and hardy; vine is six years old."

In another letter he says: "I made the cross of the seed, and when, seven years ago, I was sick, and did not expect to do much again, I gave the seed of 125 crosses to Mr. Tucker to raise; I also gave away 600 other seeds to other persons. Mr. Tucker raised about 50, and at last these dwindled down

to six or eight. Two are early white, and an early black I sent West. But this, the best, has now grown six years, and the fruit has grown larger in berry and more beautiful in bunch, every year it has borne. It is now in berry, very nearly as large as Isabella; is a compact and Delaware shaped bunch; yellowish green or golden color, clear in the skin and pulp, so as to show the seed when held in the light; it has no foxy smell, but a rose-like perfume. It is not as sweet this year, when no grape is sweet here in the Cayuga Valley, but is the sweetest and best grape out of scores of varieties. It usually ripens the 20th August to September 1st; and this is as early as any grape. The vine this year had about a bushel on it by actual measurement, as we picked them; and this is only the sixth year of its age. Leaves are large, rough on the top, and resists climate. Vine never has been protected in the least; has been pruned and left all winter on the trellis. Stands on hard clay, and shaded with tomato vines, on poles, so that it has not a full sun exposure; yet gives this splendid fruit.

I am not ready to commend grapes very highly; yet this I cannot help regarding as the best White American Grape, yet out, for it has perfect hardiness, health; is early, and choice in flavor and sweetness."

Note by Editor.—We can indorse all that is said concerning *flavor*. The variety deserves examination.

Ornamental Shrubs—How to Take Care of Them.

DECIDUOUS shrubs are propagated by cuttings, layers, offsets or divisions of the root and seed. Cuttings are made of the ripe wood of the same year's growth, cut in November and heeled in—that is, the lower end of the cutting is planted in sand, in a cellar or some place where there is an even temperature, above freezing, and yet not warm enough to start the buds before it is time to plant in the spring. Most of the

new varieties are propagated by cutting off the young shoots. These are taken off when about three inches in length, and planted in boxes or shallow pots, filled with sand, and placed in frames where there is a moderate degree of bottom heat. To be successful in raising cuttings in this way, the temperature should be kept as even as possible. The sudden changes from fifty to sixty, and then down to thirty, causes the cuttings to damp

off, as the gardeners term it—that is, turning black and rotting. Other varieties of shrubs are raised from cuttings of the root, which may be cut up in small pieces of an inch in length, and planted in the same way. All the varieties like a rich and deep soil. The Laburnum and Japan quince have long roots, which run deep into the ground, and when grown in poor soil, they have a dwarf and stunted appearance. Most shrubs, as a general rule, send out their roots not far from the surface of the soil; consequently, a slight surface manuring in the fall is all that is necessary to keep them growing and blooming luxuriantly. In pruning, some little judgment is required. Some varieties produce their flowers on the wood of last season's growth; hence, care must be exercised in removing wood, or the supply of flowers will be limited. Others produce their flowers on the young wood made in the spring. These may be pruned more severely. As an illustration of this fact, the *Spiraea Prunifolia* bears its beautiful white flowers on leafless shoots of last season's growth, while the *Spiraea Opulifolia*, which flowers later, blooms on young shoots of the same season's growth.

The following is a list of twenty-five varieties of the best now in cultivation:

Berry-Bearing Shrubs.

Callicarpa Americana—Flowers very small and insignificant. In October the branches are covered with beautiful purple berries. Propagated by divisions of the root and cuttings.

Daphne Mezereum—Most fragrant of all the flowering shrubs. Blooms in March, and is succeeded by bright scarlet berries. Propagated by layers and seed.

Enonymous Americanus or Burning Bush, sometimes called Strawberry Tree—A tall, growing shrub, covered with bright scarlet berries. *E. Fructo Albo* bears white berries, and forms a pleasing contrast to the former. It is very easily propagated by seeds, cuttings, layers and division of the root.

Symphoricarpus Racemosus, more com-

monly known under the names of Waxberry and Snowberry; the flowers are insignificant, but the berries are rather pretty in the fall. *Symphoria Vulgaris*, commonly called the Coral Plant—the berries are red, and bear a slight resemblance to coral beads, easily propagated by layers and divisions of the root.

Berberis Atropurpurea—A variety of the common berberry, with dark purple leaves. In spring it bears a profusion of flowers, of a yellowish color, quite pretty, succeeded by berries of a dark color, of no great beauty, yet it should be in a collection, on account of its hardiness, retaining its foliage for a considerable length of time during winter. Propagated by cuttings and divisions of the root.

Amygdalus Persica, or double flowering peach—The new crimson one is a splendid addition to our collection of flowering shrubs. It frequently bears double fruit, but they never mature. To perpetuate it, it requires to be budded on the common peach or plum stock.

Amygdalus Pumila is the old double pink-flowered almond, too well known to need any description.

Amygdalus Pumila Alba Plena, the new double white flowering almond, is also a great addition. No choice selection of shrubs is complete without it. It is extremely hardy and easy to propagate by cuttings of the root.

Andromeda Calyculata—A dwarf shrub, retaining its leaves all winter, and covered with white flowers in the spring. *Andromeda Florabundii* grows taller than the above, flowers larger and more abundant. Propagated by seeds, layers or cutting.

Azalea Calendulacea, Orange colored Azalea—Very showy, but not as fragrant as the *Azalea Viscosa* or *nudiflora*, which grows wild in most parts of the country.

Cercis, Japan Judas Tree—This is probably the most showy of all the early flowering shrubs in cultivation. The flowers are of a rosy pink, and produced so profusely as to cover the branches entirely. Propagated by layers.

Cytisus Scoparius—Scotch brown, a very graceful growing shrub, of medium size, foliage very small, and bearing a profusion of pea-shaped flowers of a bright yellow; not perfectly hardy, yet does well in sheltered positions. Propagated by seed.

Cydonia Japonica, Japan Quince; a beautiful flower, but the plant, on account of its thorny character, is no favorite with us. *Cydonia Japonica Alba* is a white, or, more properly speaking, a pink, variety. Both, when planted together, form a pleasing contrast. Propagated by layers and dividing the roots.

Deutzia Scabra grows eight or ten feet high, bearing an abundance of pure white flowers. The new double flowered variety is pretty, yet we think it will be some time before it supersedes the preceding one. *Deutzia Gracilis*, a dwarf kind, suitable for early flowering in the house. Propagated by cuttings.

Forsythia Viridissima, Golden Bell, flowers very early in spring, and retains its foliage until quite late in the season. Easily propagated by layers. *Forsythia Suspensa*, a new weeping variety, flowers similar to the above, but much smaller.

Halesia Tetraptera, Silver Bell Tree; a very tall growing shrub, bearing thousands of white bell-shaped flowers. Propagated by seed.

Spiraea—A beautiful class of shrubs, commencing to flower early in the spring, and continuing until autumn. *Spiraea Prunifolia* bears its flowers on long, delicate shoots. *Spiraea Reevesii* bears a profusion of white flowers. *S. K. Plena*, a double flowered variety of the former. *Billardii*, bright red. *Callosa*, pink flowered. Propagated by cuttings, layers and divisions of the root.

Syringa Lilac—The new varieties are very fine. *Syringa Virginalis*, a delicate white flower. Persian, purple flowers. *S. Laciniata*, cut leaved, curious foliage. These varieties are valuable, as they commence to flower when quite small. Propagated by layers, cuttings and divisions of the root.

Tamariscus Africanus—A very graceful shrub, growing quite tall, foliage delicate, flowers in long spikes, of a pale pink; can be raised from layers of the branches.

Weigelia Rosea—This shrub has become very popular. Its beautiful flower, extreme hardiness and quick growth have rendered it a general favorite. *Weigelia Amabilis*, a strong growing kind, of not much beauty, but it blooms occasionally during the summer. *Weigelia Variegata*, variegated leaves. Propagated by cuttings, layers and divisions of the root.

Viburnum Opulus—The old-fashioned snowball. There are several varieties of this shrub. It is propagated by cutting and layers.

Hypericum, or St. John's Wort—A dwarf shrub, bearing small yellow flowers, in bloom for quite a length of time during summer. Propagated by seed.

Philadelphus Coronarius, or Mock Orange, the most fragrant of all the *Syringas*. *Philadelphus Grandiflorus*, larger flower than the former, but not so fragrant. *Nana*, a dwarfish variety. *Gordonarius*, similar to *Grandiflorus*. All the varieties named bear white flowers. Propagated by cuttings, layers and divisions of the root.

Hydrangea; the new variegated leaved varieties are very ornamental. *Argentea Variegata* has white spots or stripes on its leaves. *Aurea Variegata*, foliage, golden stripes. They require to be protected during winter. Easily propagated by cuttings and layers.

Crataegus Oxycantha, English Hawthorn: The red and white are quite pretty, and well worth cultivating. Propagated by seeds.

Kalmia Latifolia, our native Laurel—Its extreme hardiness and delicate flower has made it quite a favorite of ours. When removed from its native woods, it should be planted in a similar soil.

Calycanthus Floridus—Sweet scented shrub. The stems and flowers are both fragrant. The flowers are not remarkable for their beauty. Propagated by suckers, layers and cuttings.

Rhododendron—There are so many varieties of this beautiful evergreen shrub, that selection is a matter of taste. *R. Catawbiensis*, large purple flower. *Maximum*, pink flower. Propagated by grafting, seeds and layers.

T. C.

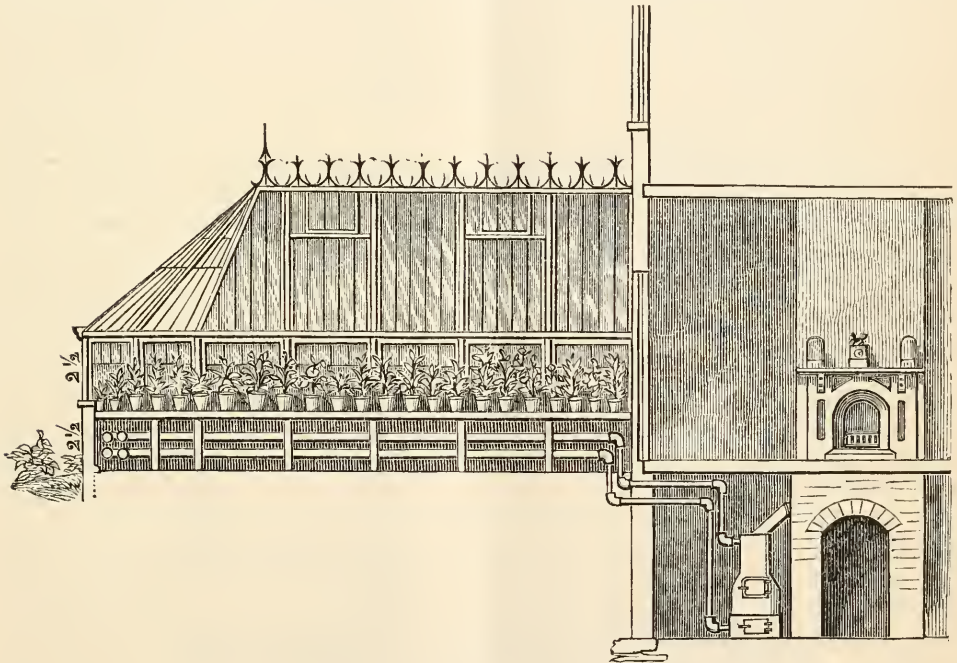
Cheap Greenhouses.

PROBABLY no question has been asked so often of our leading florists, within the past three years, by gentlemen, as this: "*How can I build and heat a Cheap Greenhouse.*" And for a long time none could give a satisfactory answer. Most conservatories and greenhouses hitherto erected, have been of a costly character, from \$2,000 upward, each requiring special heating apparatus, and the special attention of one

in cold nights) than the usual air of the room.

It is our pleasure, at last, to say, that the much desired invention has appeared, which seems to us most perfectly adapted to the successful heating and operation of any greenhouse of this character.

The accompanying illustration represents a full view of a small greenhouse, with hot water pipes surrounding the bare inside,



Plan for Heating a Small Conservatory.

person who must always be present. But the taste for plant growing within doors, has advanced so rapidly, in the last three years, that many ladies and gentlemen have begun the erection of small conservatories, which are connected with the main portion of their dwellings, and open immediately into the parlors, libraries or sitting rooms. Bay windows, too, have multiplied—have gradually become filled with a large and often handsome collection of in-door plants; and these, too, have begun to feel the necessity of better heating arrangements (especially

and supplied from a small base-burning water heater, placed in the cellar or basement of the adjoining building.

It is one of new construction by Hitching & Co., of this city, who have adapted it especially to the purpose for which needed.

Its heating capacity is sufficient to heat about 200 feet of pipe surface, and suitable to heat a conservatory that has about 600 square feet of glass on the roof, sides and ends.

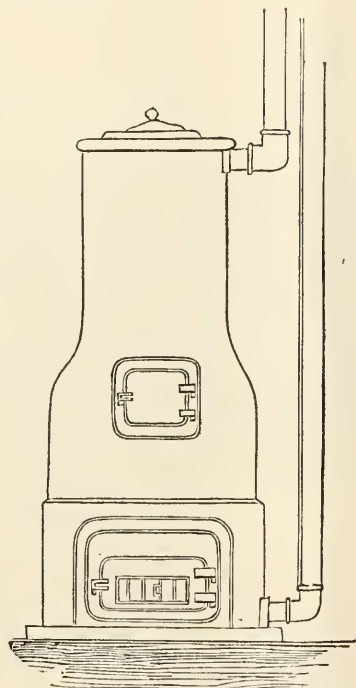
The fire chamber is surrounded by water, as is also the ash pit, so as to economize the

fuel to the fullest extent, and insure perfect safety. They are easily managed, and with as little care as the ordinary base-burning stoves.

The conservatory illustrated in our plan, is twenty-four feet long and fourteen feet wide, connected with and communicating with the parlor.

The cost of heater, with pipes in conservatory, all complete, will vary from \$150 to \$200, according to the size of conservatory, position of boiler, etc.

And the total cost of green-house complete with pipes, boiler, etc., is estimated at about \$600. Possibly any one with mechanical ingenuity to make his own conservatory, need not spend over \$350 to \$400. The heater must be placed immediately near a chimney, where there is a good draught,



Plan of Boiler for Small Conservatory.

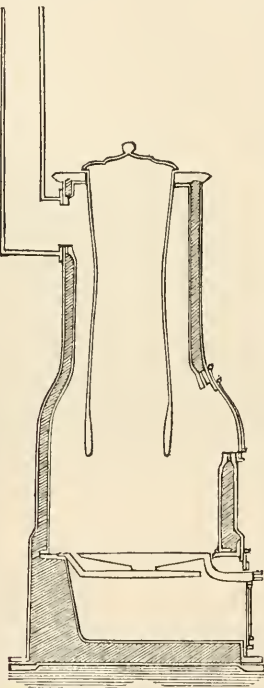
and once adjusted, needs no looking after for hours.

Many would like to see the heater do double duty, of heating both conservatory and parlor, but such cannot be conveniently arranged. Each room requires its own apparatus.

The heater described here will maintain sufficient heat in the conservatory; the temperature will not fall below sixty deg. in very cold days.

It seems, in our opinion, to meet the purpose most admirably, and we will be happy to forward any letter from parties who wish to correspond with the manufacturer for its erection.

—♦—
A Lord Palmerst'n peach weighing over eleven oz., one of 7 produced by a small standard tree grown in a 11-inch pot, is acknowledged by Garden.



Grape Culture in Florida.

BY "AL FRESCO."

FOR many years I have been interested in the success of grape culture in Florida, and deem the subject worthy of being noticed through the columns of the *HORTICULTURIST*. Many flattered themselves that our middle and western States would become wine-producing regions, and supply the wants of our population with the pure juice of the grape. Taking advantage of the opportunity, unprincipled wine growers wrote, talked, lectured

and published bombastic descriptions of useless varieties, and thousands were induced to purchase straws at from \$3 to \$5 each, to reap disappointment. The next enemy of the viticulturist was the oidium (mildew) which destroyed the foliage of foreign and nearly all our native varieties—in some localities the Concord and Hartford Prolific alone escaping the ravages of this pest. There appeared another enemy, the grape

vine louse (*Phylloxera*) attacking the leaves and roots and completing what the former left unfinished. Still they come: for the past summer has fully developed in some localities another pest—the Thrip (*Thrips Ocracous*). In some localities the insect existed in such quantities as to destroy the epidermis of the leaves, thereby limiting growth, and preventing the ripening of the wood and fruit. In my garden, the leaves of many varieties, more especially the Senasqua, appeared as though they had been seared with a hot iron.

On the shores of our lakes, and in a few favored localities east of the Rocky Mountains, and north of the 36th parallel, the grape is successfully cultivated; but the areas are so limited that we must look farther. During our visits we have carefully examined the capabilities of portions of the Southern States regarding vine culture; and we shall communicate such information as we have derived from observation and inquiry. Several years since we made a summer tour through Kentucky, Tennessee, North and South Carolina and Georgia, and in no instance did we find any variety of grape, except the Scuppernong and Concord unaffected by mildew. In July '69 we visited Florida, and at St. Augustine found the Isabella, Delaware, Concord, Black Hamburg and other varieties growing luxuriantly and unaffected by any disease.

During the course of last winter we made an extended tour through Florida and endeavored to obtain all the information possible regarding the vine, native or foreign; and to our great surprise could not find one of either variety in some of the older towns. I visited Tallahassee, and found that a gentleman named Bradford owned a small vineyard a few miles from town; and in company with my friend, Col. J. J. Williams, visited it. Mr. B. informed me, that he had tested a large number of varieties, native and foreign, and that the majority had been unsuccessful—but that the Concord and Scuppernong had succeeded admirably. He attributed the injury sustained by some of the varieties tested to the ravages of the

phylloxera. We questioned him closely regarding the condition of the foliage during the summer months, and carefully examined the roots of a number of varieties; and arrived at the conclusion that the true cause of failure was the oidium and not the phylloxera. Mr. B. submitted for my inspection a sample of his Concord wine, and for bouquet, absence of acid, and color it excelled any sample of Concord wine we ever tested—reminding us of the Burgundy wine made in Australia. Owing to the length of the season, the fruit of the Concord attains greater perfection, and contains less acid and more saccharine matter than in our Northern States.

Since our return to our northern home, we communicated with Col. J. J. Williams, of Tallahassee, and requested him to hand our communication to some reliable grape grower, and solicit replies to my queries. My letter was handed to Mr. John A. Craig, who kindly replied as follows:

TALLAHASSEE, FLA., }
Sept. 6th, 1873. }

DEAR SIR:

Your letter of July 30th to Col. J. J. Williams was handed to me by him to answer. Mr. Bradford and myself being the only persons at present in the county who are growing grapes, I will give you statements of what B. and I have done. Our plantations join each other, and I believe you visited his place with Col. Williams. Six years ago, Mr. B. and self's attention was turned towards grape growing from some statements we had read in some agricultural papers, and believing we had the climate, and could select soils well adapted to its culture, we planted each eight acres of scuppernong vines. The next year we planted several acres of the Clinton grape, being led thereto by the success of J. P. Berekmans, of Augusta, Ga., and the low price of the vines compared with other varieties. Mr. Bradford planted, at the same time, 100 Concord vines. The Clinton grew rampant, and the third year, from its number of bunches, bid fair to yield us a

fair crop. In the month or June the gall louse [oidium?] attacked the leaves, together with a dull yellow beetle, and destroyed all the leaves, in consequence of which the fruit dried up and fell off. The next year was accompanied with the same results, when we destroyed the vines. Three years since, I planted fifty-three varieties of grapes, some of them *vitis vinifera*. To make a long story short, I have reduced my varieties down to Concord, Ives, Hartford, Diana, Martha, Rodgers Nos. 1, 2, 4 and 53, Creveling, Herbemont, Black Hamburg and Malaga. Of the above, Concord, Ives and Delaware I have succeeded best with.

These are hardy, and yield finer bunches and larger berries than the same kinds north. The Black Hamburg and Malaga grow well in open ground, but would do better if planted between such varieties as Ives and Concord on the trellis, training them to the lower wire, while the latter are trained to the upper wires, protecting them with their dense foliage from heavy dews and rains. By adopting this plan, I believe that most of the varieties of *vitis vinifera* can be grown in this State, on land with a porous subsoil, or soil artificially drained.

[TO BE CONTINUED.]

Management of City Grounds.

An Address by R. W. Steele, before Montgomery Co. (O.), Horticultural Society.

The Management of City Grounds.

A GREAT change of taste is manifest in the last few years in the management of city grounds. Formerly the chief object seemed to be to crowd into a small space as many trees — principally evergreens—as could possibly grow, thus shutting from the house the sunlight, and preventing the growth of grass. Nothing could well be more dreary and funereal than such a door-yard. Now, when the space is small, it is wholly given to grass—so beautiful and so refreshing to the eye. The introduction of the lawn mower has made green sward possible, which, if not as velvety as the English lawn—the envy of all American travelers—is yet very beautiful and satisfactory. The first and indispensable requisite for a city yard is a smooth and compact sward. This can only be secured by sodding. No matter how carefully the ground is prepared, nor how skillfully and plentifully sown with grass seed, it will require a long time, if ever, to cover the ground completely with grass by this method. Do not be deterred from sodding by the expense, for it is the only way in which a satisfactory result can be secured. To give full effect to sward, considerable space is required. This has been attained largely

in our city by the removal of division fences between contiguous lots. So magical have been the effects produced by this simple device, that the wonder is, that it was not thought of and resorted to long ago. By the removal of long rows of unsightly fences, whole squares have been thrown into one lawn, and the grounds of dwellings, which before looked mean and contracted, now appear suitable and ample. How much it would add to the attractiveness of our city, if, wherever it is suitable, division fences were removed. Aside from the increased beauty, there is something pleasing in the very idea of their removal. It seems to proclaim to every passer that kindly feeling and good neighborhood prevail in that locality. I recollect once seeing between adjoining lots two hostile fences a few inches apart, hurling defiance at each other and proclaiming that malice and all uncharitableness abode there. Who could pass such a place without a shudder? It has been objected that, by the removal of fences, the danger of injury from stray cows and hogs is increased. This may be true, but how long will the people of Dayton submit to have our streets made a pasture for cows and hogs? We have an excellent law on the subject, and it only requires a little

nerve to have it enforced. The small minority in a city like Dayton keep cows, and they should be compelled to fence them *in*, and not require the large majority to fence them *out*. Who has not had bitter experience of trees broken and flowers trampled by breachy cows? An experience of this kind, which occurred years ago, I recollect vividly to this day. A novice in horticulture, and wishing to plant a number of dwarf pear trees, I determined it should be done according to the *books*. The trees were procured from Rochester. The holes were dug three feet in diameter and two feet deep. A compost was prepared of the most approved kind, including bone dust. The trees were planted, and I retired to dream of the luscious pears that at no distant day were to regale myself and friends. The *very* night the work was completed (it had required several days), a cow broke in, and the first sight that greeted my eyes next morning, was the Irishman who had assisted in the planting indulging in an extravagant pantomime of rage and disgust, as he pointed to the stubs of my once beautiful trees. In many parts of the State the law is enforced. In Cleveland, the gates of the fine places on Euclid avenue stand wide open, and the liberal owners invite all well-behaved people to walk in and enjoy their beauty. All that wealth and skill can grow of choice and beautiful flowers, massed and grouped to produce the most exquisite effects, are freely open to the inspection of strangers. This willingness that the public should enjoy our floral treasures with us is an American trait. The garden of an Englishman is a paradise of fruits and flowers, but no eye but that of himself or friend ever feasts on its beauties. An ugly wall of brick or stone faces the street, and shuts from view all that is within. What a contrast in this respect between Montreal and Cleveland! The absence of fences makes common for the enjoyment of all the green grass and flowers. Shall this great boon be sacrificed for a few wandering cows and hogs?

In small yards, no trees should be planted.

There can be no more beautiful object than a fine evergreen or group of evergreens on an extensive lawn; nor can anything be more out of keeping than such a tree in a contracted place, where it has no room to develop half its beauty. Many persons crowd their grounds with small trees, with the purpose of removing them when they grow to disproportionate size. Yet, who ever cut down a fine tree without a heart pang? Once planted, they are permitted to stand when they are out of place and an eyesore. Shrubs and bushes may be used with good effect, if skillfully disposed, but there is quite as much danger of overcrowding with them as with trees. What a ragged appearance a door yard presents, where, every few feet, a rose bush or spirea breaks the turf into fragments. We need not seek for rare or costly varieties to produce the finest effects. The Spireas, the Deutzia, the Weigelia, the Persian Lilac, the Japan Quince, and other old and thoroughly tested kinds, can be readily procured at reasonable rates, and will answer very well. Among the small trees, there is none so striking as the magnolia, because of its showy flowers and its early blooming, coming before all others. Unfortunately, the finest of the magnolias, "*Grandiflora*," is too tender for our climate; but several varieties are as hardy as the oak. "*Purpurea*," "*Conspicua*" and "*Soulangeana*" have all been tested in Dayton, and have succeeded perfectly.

Rose bushes, ordinarily, should be planted in beds, and not as single bushes. The effect produced in this way is much finer, and the winter protection easier, as a half dozen bushes grouped can be covered with little more labor than one standing singly. For constant bloom throughout the season, the Hybrid Perpetuals cannot be relied on. Their perfect hardiness and reputation as bloomers have made them popular, but they cannot be called constant bloomers. If you would have continuous bloom from June till November, you must plant the Bourbon, China and Tea roses. It is true they re-

quire winter protection in our climate, but the trouble of this is so small that it is hardly worth mentioning. No one who has seen the fine bed of roses blooming all summer in Mrs. Eaker's yard, at the corner of Third and Ludlow streets, would begrudge the small expense and trouble of protection which they require.

The secret of success in the cultivation of flowers, by persons of moderate means and no special skill in floriculture, is *not to attempt too much*. A few varieties, well chosen and carefully cultivated, will give far more satisfaction than many kinds overcrowded and not properly cared for. A single variety, as the scarlet geranium, the verbenas, or the petunia, massed in a circular bed cut out in the turf, is very showy and striking. For bouquets, a few varieties will suffice. A comparatively small place planted with roses, scarlet and rose geraniums, heliotrope, verbenas, feverfew, sweet alyssum, lobelia and mignonette, will produce a bouquet every day to adorn the table or present to a friend. Many of the old varieties are unsurpassed for beauty and sweetness, and are yet so common that they can be had almost for the asking. What flower can be more beautiful and fragrant than the Lily of the Valley, and yet it can be easily procured, and requires little or no care in cultivation. One is perfectly bewildered by a florist's catalogue, and the temptation is strong to multiply varieties. A new flower with a high-sounding name, and represented by a gorgeous picture as possessing all the tints of the rainbow, is too much for us. We wish to astonish our neighbors, and buy at a high price only to find, in nine cases out of ten, that the flower does

not come up to the picture, or is unsuited to our soil and climate. It is unsafe to trust to big names in purchasing by catalogue, for perchance we may find that, under some high-sounding name, we have bought an old, and perhaps despised, acquaintance. The "*bellis perennis hortensis*" would turn out to be the daisy; the "*amaranthus hypochondriacus*" the prince's feather; the "*antirrhinum majus*" the snap dragon; the "*cheiranthus cheiri vulgaris*" the common wall flower, and so on. It is better to purchase of our own florists, rather than go abroad. We thus buy of friends and neighbors who have a claim upon our patronage, and possess the double advantage of seeing what we buy and of having a responsible party to look to in case of failure.

I would not for a moment be understood as undervaluing or discouraging the cultivation of new and costly varieties of flowers. For one who has abundant means and can employ a gardener, or possesses the necessary skill himself, there can be no more delightful or praiseworthy pursuit. He is a public benefactor and worthy of thanks who adds to our floral treasures, and by liberal expenditure of money procures new and choice flowers, not merely for his own gratification, but that every eye may be feasted with their beauty. It will be apparent to all that the object of my essay has not been to instruct the skillful horticulturist, or to make new suggestions, but simply to show how any one who possesses a small piece of ground, by the exercise of taste and a small expenditure of money, may make it beautiful and attractive, and enjoy, as well as his rich neighbor, the lovely tints and fragrance of flowers.

Worms in Flower Pots.—We have often heard ladies, and even professional gardeners, complaining of the abundance of various species of worms inhabiting flower pots, thereby injuring the growth of plants growing therein. If a little lime is dissolved in the water applied to the soil, nearly every species of worms that is found in such posi-

tion will be killed, and the plants not injured. Tobacco will also destroy most kind of worms; but lime is preferable, because it aids in dissolving the plant food in the soil, thereby stimulating growth. Watering the plants with lime water once a week, will be sufficient to kill the worms in the soil, and stimulate growth.—*Ex.*

WESTERN HORTICULTURE.

What of My Soil?

ED. WESTERN HORTICULTURIST:—I wish to plant an orchard of one thousand apple trees, besides other fruits, such as the pear, cherry, etc. As my situation and soil are peculiar, I should like your opinion upon its fitness for fruit. I am located at Silver Glen, Merrick county, Nebraska, in the Platte Valley, about a mile from the river. The surface of my place (160 acres) nowhere varies but a few feet from a general level. Soil sandy, and from two to four feet deep, with subsoil porous. From two to six feet below the surface is a strata of coarse gravel, in which water is always everywhere found; ordinarily, not nearer to the surface than three feet, though in a very wet spring it will stand within a foot or so of the surface for some weeks. There is sufficient fall, however, to allow of surface draining. The country has nothing of the appearance of a marsh, and without knowing, one would never mistrust, from growing crops, that water was near. There is often a little appearance of alkali in the soil, not sufficient,

however, to interfere with the growing of grain or grass. I inclose a sample of my soil.

CHARLES WOOSTER.

Silver Glen, Neb.

REMARKS.—Your soil and situation are indeed "peculiar." Under a magnifying glass of ordinary capacity, the soil appears to be largely composed of minute particles of sharp sand, of all shades or hues. The soil, together with the constant presence of water so near its surface, is such that we will not venture an opinion upon its adapta-



bility for fruit growing. We can only say that, were we planting an orchard upon such soil, in the first place the ground would be plowed, and the trees set upon the natural surface, and about thirty feet apart each way. Then make land, north and south, of the space occupied by each row of trees, by throwing the soil up to the tree in ridges about the trees, as represented in the cut, and some eighteen inches higher than the natural surface. In a soil so porous, we should also regard mulching of importance.

Soil and the W. W. Pearmain.

IN the HORTICULTURIST of the present month (November), Mr. Henry Walton wishes to know if the White Winter Pearmain apple succeeds well on prairie soil, and says that, on timber land, they are worthless. I can assure him that they are the same on the prairie. I have had a considerable experience with this apple in the southeast quarter of Van Buren county, Iowa, on high, rich prairie, having a slight descent to the southeast. The first trees were planted in the spring of 1843, and grew more rapidly than any other trees in the orchard, the wood, whether of slow or rapid growth, being of a soft, spongy texture. In about four years they began to bear, and increased in bearing every alternate year for about ten years, when they began to decline in bearing, and also in the quality of the fruit; so

that, in the course of five years from the beginning of the deterioration, they were entirely worthless. At about this period the trees began to die, by beginning at the ends of the limbs, as described by Mr. Walton, and now, every tree of the first planting is dead, and most of them converted into ashes.

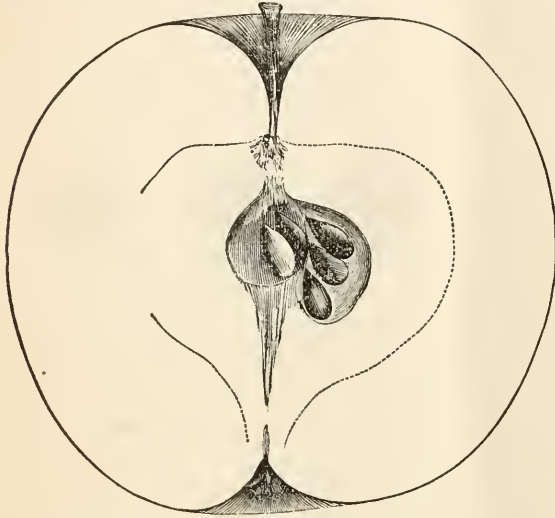
I have younger trees of this variety, of different ages, and whether five, ten or fifteen years old, the fruit is knarly, scabby and worthless. The *variety* seems to have a permanent, chronic disease. When the trees and fruit were in their prime, neither had any superior. The tree was vigorous and symmetrical, the fruit of good size, and unsurpassed in flavor and richness, and readily commanded \$1.50 per bushel.

WILLIAM P. LIPPINCOTT.

Vernon, Iowa.

Plumb's Cider Apple.

IN our April number (1873), it will be remembered, the promise of a description of Plumb's Cider was made. It was subsequently sent to the printer, where



the mechanical work upon the paper is done. After waiting two or three months, in expectancy of its appearance, word came that the copy was lost. Mr. Plumb has again favored us with more specimens of the apple, and we make a second attempt at getting it through.

There has been a good deal of controversy regarding the identity of this apple with Smith's Cider, and though there may be some little similarity, we think it too trifling to justify the decision made by the Wisconsin State Horticultural Society, in 1869, upon the question of identity. The origin of this apple is not clear—that of Smith's Cider is. Mr. Plumb tells us that "it was brought from Ohio, in 1844, to Wisconsin, by his

father—that the original tree, planted by him, in Jefferson county, still stands, a model of form and fruitfulness." The tree, wherever known, is represented to be a good grower, hardy and productive.

According to all the discouraging reports upon the destructive effects of the last winter, to our knowledge, Plumb's Cider went through, some degrees north of our locality, with little or no injury. Planted in 1844, the tree is now thirty-one years old; of course it went through the hard winter of 1855, '56. This endurance of a tree, with the fair quality and good appearance of the fruit, should certainly entitle it to a place in every orchard—especially in the more northern latitudes, where bet-

ter sorts are not safe. We fear, however, the fruit has one serious fault—bitter rot, for we find some of the specimens faulty from this cause.

Fruit above medium; form round-ovate, slightly conic in some specimens; color yellowish, shaded with pale red, and somewhat striped with brighter red, slightly specked with fine gray dots; stem stout, short, set in a shallow, narrow cavity; basin very narrow and shallow, slightly plaited; calyx very small, closed; flesh of a greenish cast, fine texture, breaking, juicy, a little above sub-acid; core little above medium; capsules open; seeds pale brown, short, plump, pointed; season October to January.

The Three Best Apples.—J. McCollum, Newfane, N. Y., says that the three best market apples for Niagara county, N. Y., are the Baldwin, Rhode Island Greening and Roxbury Russet; that two years ago

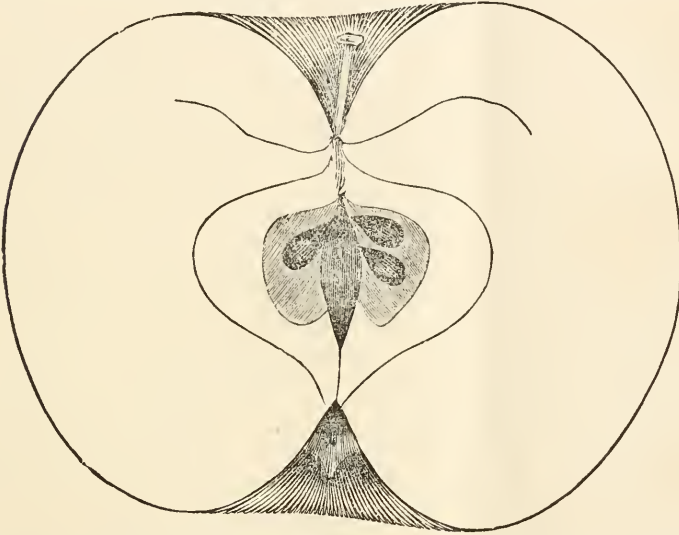
ex-Congressman Van Horn sold from nineteen acres \$7,230 worth of apples, and his neighbor, W. V. Corwin, sold 980 barrels of Baldwins, from 140 trees, at \$3.25 per barrel.

Rolla and the American Beauty.

ED. WESTERN HORTICULTURIST:—I send you outlines of a description of the above named apples. They have proved so hardy here that they may be an acquisition some

than the Janet, though not quite so fine and tender. Its keeping qualities will well compare with the Janet. It is remarkably hardy; otherwise I would not think it worthy of very extensive cultivation.

American Beauty, for size and keeping qualities, will about compare with the Rolla. It may not keep quite as long; but it is worthy of more general cultivation. It is my opinion that it is one of the many seedlings of the Gilpin (Romanite of the West). It some resembles the Gilpin in size and color but is larger in size and better in quality. It is a tender, juicy apple



degrees further north, where the number of sorts suited to the climate are more limited than here.

Rolla is not a large apple. It is more uniform in size than the Janet. In shape it resembles a small sized willow twig. It is more richly colored than the willow twig. It is about a fair second-rate apple in quality and seems to be reasonably productive. Flesh crispy, sub-acid, better for cooking

with a very mild sub-acid flavor, not very rich or very high flavored—but it is remarkably productive, uniform in size, hangs on the tree well, and the tree is a first-rate nursery tree and remarkably hardy. It makes a vigorous growth. We think it worthy of as much cultivation as the Wine Sap.

TYLER McWHORTER.

Aledo, Mercer Co., Ill.

The Currant Worm.—A writer in the *Ploughman*, after a trial of various plans for the destruction of the currant worm, finds nothing so effectual as air-slacked lime or wood ashes. In fact, he thinks any dry substance of a dusty character will destroy them. The application must be made when the foliage is wet either with dew, rain or sprinkling. A half dozen applications usually clear them out.

Borers.—A correspondent of the *Maine Farmer* states that “our orchards near the sea shore are never troubled by the borer, unless they are already in the young trees when we purchase them of the nursery agents. Whether our practice of mulching the trees with rock weed, or they do not relish the sea air, prevents their location and depredations with us, I am unable to decide.”

Raising Mounds.

BY R. L. BLAIR, DES MOINES, IOWA.

ED. WESTERN HORTICULTURIST:—I was much amused over "Storm Cliff's" first attempt at sub-tropical gardening on a mound, as related in the *Floral Cabinet* for October, and presume such to be the experience of every one who tries to do the same thing. I have often wondered why any one can be so foolish as to follow such a foolish practice, which is sure to result in disappointment and failure; yet every year we see people doing it. Mounds may be necessary in a situation where good drainage is required, or in a country not so hot as ours in midsummer, but here in America we don't need them. Now, a mound would undoubtedly be a pretty object, if the sodded sides could always be kept green, and the center did not need to be constantly deluged with water when the hot suns and scorching winds of July and August come; but with us it is impossible to keep a mound in fine condition. The practice probably came from "over the sea," where they find it necessary to heap up raised beds to obtain drainage and more warmth to the soil, and is still kept up in many gardens here by those who know no better. Besides their ragged ugliness, these mounds are trouble-

some and laborious to make. Every spring, about the time when all get the gardening fever, do we see men, women, children and the hired man with wheelbarrow, spade, rake and shovel, gathering up brickbats, old boots, condemned tin pans and broken crockery from the back yard, to make the foundation for a mound; then earth must be brought, sods cut, trimmed and put in place; then, when the "thing" is finished, all admire it and anticipate much pleasure when the plants will bloom; but, when dry weather comes, and the sods die, and the dwarfed plants shrivel, then the mound becomes an eye-sore, and all wish it resolved into its original elements in the rear alley; so it is abandoned to its fate, and becomes a wallowing place for the hens. If, instead of all this trouble of making a mound, the same energy had been expended in cutting a neat bed on the lawn, or in the little front yard, the ground deeply spaded and enriched with well-rotted manure, anybody can have a flower bed that will require but little labor in planting the seeds, keeping out weeds and grass roots, and an occasional watering, when the drought of midsummer comes.

Culture of Ginger.—In reply to a correspondent concerning the culture of ginger, the *Pacific Rural Press* says: "It is generally cultivated by divisions of the green roots, which can be obtained of the Chinese merchants in this city. Divide the roots as you would dahlias, and plant two and a half feet apart each way; keep the surface of the soil loose and free from weeds by repeated hoeing, if necessary.

It is safe to assume that the roots are fully grown when the stalks begin to wither; they should then be taken up, except those intended for planting, which can remain in the ground, where they would not be injured by frost."

Wine Drinkers.—We have always considered anything like a regular use of wine a sure stepping-stone to the drunkard's platform, by far more insidious in its effects than the use of strong beer, about which there is so much clamor. The *California Agriculturist* says of the effects of wine-making and drinking in that State: "Those who have been longest in the wine manufacturing business are the poorest; and, besides, many of them, with their sons and daughters, have contracted a taste for strong drink which is fast bringing them to destruction—that wine can be bought in many of the older wine-producing districts for the cost of the cask in which it is stored."

An Orchard Saved by Mulching.

ED. WESTERN HORTICULTURIST:—A few notes from this quarter of the State may be of interest. Most of the bearing apple trees in this region were badly injured by the last winter, or killed outright. On the "bottom" or valley lands, the destruction has been much the greatest, on the prairie very considerable, and on timber lands, with clay subsoil, least. Trees that bore fruit last year (1872) appear to have suffered most. Trees which have been most neglected, and which have borne but little fruit, on timber and prairie lands, are the least injured.

Few people hereabouts pay any regard to mulching their orchard trees. I have found one orchard of apple trees on a steep slope to the east, which have been carefully cultivated and thoroughly pruned, that are in perfect condition—all, excepting two trees, which are nearly dead. The owner told me that the trees were all well mulched last fall, except the two dying ones—that they had only a few potato vines thrown about the roots. He said the mulching saved the trees. He mulches in the fall, removes it in the spring and cultivates the ground.

Grades of Black Cherries.—The *Country Gentleman* says there are four old black cherries that present successive grades of improvement, namely: the *Black Mazzard*, a small, bitter variety, which has a high and somewhat agreeable flavor when "dead ripe;" the *Black Caroon*, or *Carone*, larger and less bitter—by some confounded with *Black Heart*, which is still larger and better; and lastly, *Black Tartarian*, the well-known, old, popular variety of largest size. As each sort is successively larger, it becomes milder in flavor. Prince, in his *Pomological Manual*, made the *Carone* distinct from the *Black Heart*, but the *Catalogue of the London Horticultural Society* seems to confound them, and Downing copies the mistake. The true *Carone* has probably passed out of existence or cultivation.

This orchard is the healthiest I have seen. The young orchards have suffered much less than those previously in bearing, and those most protected from the west and north winds—other conditions being equal—are least injured. But on the rich valley lands, although protected by high bluffs, large, fine trees, which have borne well before, have succumbed, like the grass of the valley. Tetofski, Duchess Oldenburg, Haas, St. Lawrence and Fameuse went through the frosty ordeal best. J. ALDEN WINTER.

Village Creek, Alameda Co., Ia.

REMARKS.—We thank our correspondent for his very instructive observations. We might almost say they afford a key to certain success. For years we have urged upon tree planters the great importance of both mulching and deep planting in the windy, frosty country. We venture the assertion that at least seventy-five per cent. of all the apple trees in Iowa, Wisconsin and Minnesota, killed outright or materially injured, is due to neglect of these two important essentials to success—deep PLANTING and MULCHING.

The Rolla Apple.—Mr. Nathan Schce of Schonsburgh, this State, writes us that in the spring of 1871, he grafted a cion of the Rolla into a stock of the Janet that produced the following year (1872) a fine, large specimen; last spring it bloomed profusely and held its fruit till of the size of a hazel nut. Fruit large, oblong, yellow, sub-acid, early winter; think it a very promising apple.

The Baldwin in Michigan.—The Baldwin apple is reported more largely planted in the region of St. Joseph, Mich., and the demand for the fruit greater than that of any other variety. The preference given it over other sorts is on account of its early bearing, productiveness and fairness, rather than quality.

Grape List for New York.

A CORRESPONDENT of the *Western Rural*, writing from Hammondsport, a noted locality for the production of grapes and wine, says:

"The latest approved grape list for the practical vineyardist in this locality would be a very short one. Catawba stands at the head of the list, although we have partial failures; but, for a series of years, gives us the greatest profit. Delaware stands next, where the soil is suitable, but the increasing ravages of the thrip warns us not to plant too extensively. Concord comes next in order—but a Concord vineyard for wine alone would be a poor investment, although its being so low in acid makes it very valuable to mix with the Catawba. It is a bad grape for market, unless grown near by; still, it can be handled with proper care.

Ives is a reliable, low-priced market grape; should not set it extensively. Hartford Prolific, a few vines only. I would recommend the Mary Ann for an early black

grape; superior in quality to the Hartford; two to five days earlier; does not drop from the stems; a hardy and vigorous grower and a prolific bearer.

Diana with us is not worthy of cultivation. Isabella is yet the best black grape for market, but we do not consider it valuable for wine. Iona, with all its good qualities, has so many bad ones that it cannot be recommended for planting, except to a very limited extent. Salem will prove a very popular market grape, but with us is not a vigorous grower, and only a moderate bearer; is a little inclined to drop its leaves. Of the other numbers of Rodgers I am not well enough acquainted to speak. I know nothing of the Tallman.

This list includes all the grapes, I think, that have been grown in our locality with profit to the grower. Although there are many other varieties growing here, I know of none others that would be worthy of cultivation to any extent."

The Quince on the Juneberry.—Mr. F. K. Phoenix, in the *Gardener's Monthly*, relates an experiment in the working the Angers quince on the Juneberry (Shad or Senice) four feet or so from the ground. The quince grew well, and soon commenced bearing, and has borne nearly every year since. But, being in an apple orchard, the apple trees have prevented any fair development or test. The cross working has seemed to make the quince more hardy than any other method I have tried. The pear also takes moderately well on that stock, and I think should be worked and tested on that stock for the north. I think the Juneberry is among the very hardiest northern trees or shrubs.

Please correct a mistake in my remarks on the strawberry in the September number. Where it reads "Cat and Jack," "Captain Jack" is what it should be. S. MILLER.

Bluffton, Mo.

Cabbage Worms.—The cabbage worm is said to be on the increase in some parts of the State of New York, to the extent that the crop will have to be abandoned, unless attacked by one or more parasites to check its progress. As a remedy, a correspondent of the *New York Times* says wheat bran or shorts is an effectual remedy. Examine the cabbage before they head, for the web of the caterpillar or holes in the leaves of the bud. If found, put a teaspoonful of the bran or shorts in the head. If hard rain follows, repeat the application. The worms seldom attack the cabbage after the head is well formed.

The Fameuse.—The *Western Farmer* thinks this apple should be classified among winter apples, instead of fall apples, as it generally is. We think so as much, or which is more definite, late fall and early winter.



Editorial Notes.

'A New Addition to Editorial Staff.'

Commencing with this number our friend, Josiah Hoopes, takes his place as one of the steady associate editorial correspondents of THE HORTICULTURIST, who will talk to us with gossip or practical notes, about flower gardening and ornamental planting. In thus warmly welcoming him to a position of such prominent and advanced opportunities for good, or for popularity, we assure our readers that they will find in his articles the most valuable of facts, experiences and suggestions, and we know no better authority in this country than he, in all departments of popular horticulture. His articles will be of great value to every amateur, to every nurseryman, to every florist and gardener.

Death of Henry A. Dreer.

With great regret, we announce the death of Henry A. Dreer, in Philadelphia. For a long time prominent as one of the oldest and most reliable seedsmen and dealers of that city, he also was equally prominent in his faithful support of horticultural societies and enterprises of kindred character. He was one of the most efficient supporters of the Philadelphia Horticultural Society, and acted as its treasurer for many years. Liberal to all, agreeable, cordial in personal manners, and thoroughly honest in business transactions, he was one of those rare examples of true business integrity and kindly or personal friendship which we are sadly loth to lose.

On Wednesday, December 24, a special

meeting of the Pennsylvania Horticultural Society was called, at Horticultural Hall, and the following resolutions were introduced by Mr. Thos. Meehan and passed :

Resolved, That in the death of Mr. Henry A. Dreer, who for thirty-five years has been a member and for eleven years the treasurer of the society, it has lost one of its most honored and valued members, and horticulture, the love of which he has done so much to encourage, one of its most ardent representatives, while his personal character as a man has endeared him to all his associates.

Resolved, That, as an humble tribute to a memory which we cherish, we attend his funeral in a body this afternoon, and that the secretary be directed to forward a copy of these resolutions to his family.

Bridge in Prospect Park, Brooklyn.

In continuation of our series of illustrated frontispieces of American parks, we issue one this month depicting scene, now somewhat famous for its artistic beauty, in Prospect Park, Brooklyn, N.Y. A little stream commencing at a small basin of water known as the Pool, flows downward, over a series of little rock-formed cascades, then over a stony or pebbly bottom ; and at last empties into the larger expanse of the lake Lull Water. Over this stream, at one of its most picturesque points, is thrown this bridge, which, built in simple style, yet it is massive in masonry and elegant in finish and even outline. There are three arches which support the bridge ; the upper part is intended only

as a carriage-way, while underneath, at both right and left hand arches, is room for foot passers or horsemen—the path leading along the banks of the little stream.

From the lower side of the bridge is caught a pretty glimpse of the glen and the waterfall, from the Pool, and may be considered as the most delightful scenes of the park. The bridge is lined underneath to prevent dripping of moisture from the road above, and here, by the sides of the path, are placed seats, affording a cool retreat in the heat of summer, for the visitor.

This is but the first of other sketches, which we will present in due time, of the beauties of this famous park.

New and Desirable Evergreens.

We have been aware for some time past that several new and very desirable varieties of evergreens were being propagated quietly in Geneva, New York, waiting for a favorable time for introduction. This time seems to have arrived, for no lover of horticulture can have failed to notice the unmistakable evidence of a public desire to plant more ornamental stock, and a greater interest in new and desirable sorts. Several of these new evergreens are now brought to light for the first time, as appears by descriptions just forwarded us by T. C. Maxwell & Bros.

Peaches in the South.

The convention of fruit growers at Atlanta this fall gave pretty direct decisions respecting the quality of Smock, Salway and Picquet's late peaches. The standing fruit committee, composed of seven members, decided that the quality of the Smock is much below the lowest standard of admission, and rejected it as too acid and too dry in texture. Salway was classed as good, but rather small, flesh sweet and fair flavor. Picquet's was classed as best, flesh vinous, highly flavored, melting, stone small, and fruit of regular and very large size, and of superior quality. Commenting on the verdict, Mr. Berckmans, the accomplished Southern horticulturist, says: "As the Picquet has become very popular wherever

cultivated, we are gratified in having an opportunity to add this official report of its transcendent merits."

Clouds, to Protect from Frost.

It seems that, in Southern France, means have been used to protect grapes from early frost by producing artificial clouds. Small cauldrons of coal-tar are placed a short distance from each other, and about 260 yards from the vines, in the direction of the wind. As soon as there are signs of "Jack's" appearance, the tar is ignited and allowed to burn until an hour after sunrise, the vessels being changed with the wind. Thus the wine-makers secure what the Concord Sage calls "a Cuban climate for their clusters." Similar experiments were tried in some portions of the United States many years ago, and always with conspicuous success when judiciously conducted. Where tar is not available, or too costly, brushwood, or any similar rubbish which will make a low, smoldering fire and emit a dense smoke, may be used in its place.

Orchids.

George Such recommends persons just becoming interested in the subject to purchase fine plants only. For instance, eight dollars or ten dollars for a *Cattleya* would give to most men more satisfaction than the purchase of twenty Orchids of inferior quality. Another writer mentions that what in Europe is called one of the best Orchids—*Cypripedium Villosum*—belongs to a class which generally will grow in a cool greenhouse almost as well as geraniums or any common plant. One of these, at a public exhibition in Brussels, is spoken of as having been "the finest in the whole show; a grand specimen, beautifully bloomed with upward of fifty flowers, and the deserved recipient of the first prize."

Western New York Horticultural Society.

The annual meeting of this society, to be held January 7 and 8, will be interesting, and elicit a great fund of practical information.

A Bright Outlook.

Our contributors are rallying in force. The splendid articles we make space for this month, are but part of more on hand yet to come. For the coming year, we aim to make the *HORTICULTURIST* more practical and interesting than ever. Ask questions and we will answer them.

Rose Articles.

We have invited Mr. C. P. Hayes, of the firm of Miller & Hayes, of Germantown, Pa., to write for us some articles on *New Roses*, and he has acceded with pleasure. The first appears in our pages this month, and others will follow in the course of the year. This firm are the largest growers of New Roses in this country, and their experience is good authority. Florists will find it worth while to follow this series with close interest.

The eminent European rose grower, Eug. Verdier, has complimented Messrs. Miller & Hayes, in his new Catalogue for the Fall of 1873, by naming one of his select 12 best roses, chosen from 50,000 other seedlings, as the Miller & Hayes Rose.

We trust this pleasant practice of international courtesy may prevail, for in no better way can American and European horticultural interests be made of mutual interest.

Florida Articles.

We have on hand numerous other articles of *Al Fresco*, upon grapes, etc., in Florida. They are exceedingly interesting, and will appear frequently.

Park Scenery—Illustrations.

We will publish during this year, handsome frontispieces of scenes in Prospect Park, Fairmount Park, and Central Park. The frontispiece this month is but one of the collection, others equally as handsome will follow. It is believed this feature alone will make *THE HORTICULTURIST* well worth its subscription price to every one.

New Names.

Will our friends remember that to any bringing one new name, the additional copy

costs but \$1, or both for \$3. Surely there is a dollar's worth to some one in every number.

Pennsylvania Horticultural Society.

The annual meeting of this Society will be held at Mechanicsburg, Pa., Jan. 21, 1874. We know it will be full of interest, and a great deal that is valuable and instructive will be elicited.

JOSIAH HOOPES, *President.*

A. W. HARRIS, *Secretary.*

Poetry of the Flowers.

In a Sunday morning sermon by Rev. W. C. Gannett of Boston, there are some very beautiful thoughts about the pleasure of the love of flowers. Referring to the oft repeated question, which is the fairest of them all, he responded, in these words and poem, which we think are truly beautiful:

"Where then is the place of the fairest, seeing that all eyes claim it as their own? Thoughts about beauty turn into poetry of themselves, and one can hardly think about flowers without twining his words with verse. Let me give this one delicate answer to our question "what one is fairest?"

The Daffodil sang, "Darling of the sun,
Am I, am I that wear
His color everywhere!

The Violet pleaded soft in undertone,
"Am I less perfect made,
Though hidden in the shade,
So close and deep that heaven may not see
Its own fair hue in me?"

The Rose stood up full blown
Right royal as a queen upon her throne,
"Nay, but I reign alone,"
She said "with all hearts for my own."

One whispered with faint flush not far away,
"I am the eye of day
And all men love me;" and with drowsy sighs
A *Lotus* from the still pond where she lay
Breathed, "I am precious balm for weary
eyes."

Only the fair field *Lily*, slim and tall,
Spake not for all—
Spake not, and did not stir,
Lapsed in some far and tender memory,
Softly I questioned her,
"And what of thee?"

And winds were lulled about the bended head,
 And the warm sunlight swathed her as in
 flame
 While the awed answer came,
 "Hath He not said?"

Perfect Nonsense.

The horticultural editorial genius who penned the following sketch was either a natural born fool, or else lived in "moonshine" too much. The idea of growing best in cold weather! "Delicate flower!" "Fragile!" "Star reflectors!" "Perfumes!" Whew! Carry us out!

"The California hop vine has the singular habit of only growing in winter. The cooler the weather, the better it thrives; and on clear, frosty nights, it sometimes grows an inch in five hours. It bears beautiful, snow-white flowers, something like tuberose, only much more fragile and fragrant. Ladies wear them with diamonds at evening parties. They wither in daylight, and open only at night. When the mercury is lowest, and the stars are almost reflected on the crisp, shining snow, then this delicate flower opens its petals and fills the frosty air with its perfumes.*"

George Peabody, Thuja Occidentalis Lutea.

This new Golden Arbor Vitæ is claimed to possess the richest golden yellow color of any evergreens—color almost entirely covers the plant—marks not merely the tips of the leaves, but covers from one to three inches of the current year's growth; color very brilliant, and more decidedly golden than *Biota elegantissima*; color permanent, both in the suns of hot summer and among the frosts and winds of winter. Plants also hardy, having stood the cold, dry, hard winters of 1870-'71-'72, and lives in every locality where the common American arbor vitæ thrives.

On February 12, 1873, the Royal Horticultural Society of London awarded it a first-class certificate.

A Big Apple Crop.

Mr. John Morse, of Cayuga, N. Y., has realized \$8,000 from a single apple crop within the past year.

Georgia Horticultural Society.

A new society with this title has been organized and holds its sessions at Atlanta, Ga. At its meeting this fall, the members filled two tables, each 100 feet long, with fruit of most attractive description—pears, apples, grapes, figs, etc.

New President of Illinois Horticultural Society.

At the last meeting of this society, we observe Robert Douglass was elected president.

A New Vegetable.

The *Gardener's Chronicle* says: "In the current number of the *Journal of Botany*, Dr. Hance describes a Chinese Culinary Vegetable, consisting of the shoots of a grass, *Hydrophyrum latifolium*, wild in Northern China and Amoor Land, and cultivated in Southern China in standing water. As brought to market, the "cane shoots" occur in cylindrical pieces of a white color, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, 1 to $1\frac{1}{2}$ inch in diameter, tapering upwards into a conical point, and surmounted by the leaves and culm, from which they are readily detached. In taste, the raw shoot is not unlike a half-ripe nut, but it is never eaten uncooked. By the Chinese it is stewed with meat, and by foreigners cut longitudinally into two or three pieces, well boiled, and served with melted butter. Prepared in this way, it is stated by Dr. Hance to be one of the most agreeable of vegetables. "It is difficult," says the writer from whom we quote, "to describe its exact flavor, but it is, perhaps, nearer to that of unripe maize, as boiled and eaten by Americans under the name of green corn, though it possesses a richness and delicacy to which I know no parallel in any other vegetable." The species in question is nearly allied to the American species, *H. esculentum*, formerly grown in this country. There is little doubt that the Chinese plant would also thrive in our climate, on which account we are glad to hear that Dr. Hance intends to send home living plants.

Garden Topics.

Early Rose Potatoes.—P. T. Quinn, of New Jersey, informs the New York *Tribune* that he sold, in the second week in July, 100 barrels of Early Rose potatoes, at \$8.25, just \$5 per barrel more than was realized for last year's crop.

Profitable Raspberries.—Mr. A. Fahnstock, whose place is near Toledo, Ohio, has sold this season, in that city, about two hundred and fifty bushels of raspberries, with prices ranging from four to five dollars per bushel. The yield was about sixty bushels to the acre. The expense of cultivating (not including picking) is about ten dollars per acre. His crop nets about one hundred and seventy-five dollars per acre.

Liquid Mineral Manures—Remarkable Results.—A curious discovery has recently been made public in France, in regard to the culture of vegetables and fruit trees. By watering with a solution of sulphate of iron, the most wonderful fecundity has been attained. Pear trees and beans, which have been submitted to this treatment, have nearly doubled in the size of their productions, and a noticeable improvement has been remarked in their flavor. A noted physician reports that, while at the head of an establishment at Eugnein, or the sulphurous springs, he had the gardens and plantations connected with it watered, during several weeks of the early spring, with sulphurous water, and that not only the plantations prospered to a remarkable extent, but flowers acquired a peculiar brilliancy of coloring and healthy aspect which attracted universal attention.

Economy in Laying Out a Garden.—The farmer's fruit and vegetable garden should be so arranged that it can be easily cultivated by horse-power. It is a good plan to lay out a rod or more at each end, of greensward where the horse can be turned around while either cultivating or plowing it. This would do away with a great deal of back-breaking work, and serve to keep the weeds well under, and the ground so

stirred up that the crops would be highly remunerative. Grape vines could be planted along each side of the garden and trained to trellises or fences. The vegetables should be planted in rows from north to south, and so far apart that the horse could be driven between the rows. Then dwarf pears and apples, plums, cherries and peach trees, could be planted in the same way, at one side, and kept under good culture. Thus arranged there would be hardly any hand-weeding or hoeing, for a one-horse steel plow could take their place, and the farmer, with very little trouble, could daily enjoy the products of both garden and orchard.

Bone Meal as a Manure.—Among all the specific manures for grape vines, pear trees, grass lawns, etc., none, perhaps, embody more of the ingredients of plant food than bone meal. It should be applied as early in the season after the frost is out of the ground as possible. About half a ton to the acre makes a dressing that will prove valuable two or three years. We have used it to advantage in the growing of potatoes, peas, beets, etc. We sow it with the seed in the drill or hill, and in the culture of melons we have found it better than the best manures.

Standard Honeysuckles.—An exchange gives the following directions to trim the honeysuckle into a bush form, giving it great beauty and effect: Buy a plant of it, train or tie to a stout stake, prune freely but not too severely, give good soil and culture, and "it will grow into a plant that will astonish, by its flowering capacity, thousands who have not seen it so trained."

The Seckel Pear, according to a correspondent of the *Gardener's Monthly*, at Suspension Bridge, N. Y., is "wonderfully improved" by applying ashes, lime and bones, in autumn, and pruning and thinning out the thick branches early in spring.

Warming Small Greenhouses.—An English journal says that a gentleman who had a small greenhouse of half hardy, not tender plants, employed at first no heat but gas, during cold snaps. The gas was however found ruinous to the plants, and he substituted cheap paraffine lamps, distributed in different parts of the greenhouse, with entire success. In the colder winters of this country, the same means of softening the severity of the temperature might be adopted, provided the half hardy plants selected were sufficient to bear some cold, or in smaller greenhouses or plant cases.

A Rare Plant.—The *London Garden* describes the *Godwinia gigas*, lately in full flower for the first time in that country. It is an Aroid, with a very large leaf and flower. The flower, or more properly, spathe, was nearly two feet long and a foot and a half in circumference, on a stem only 18 inches high. It came from Nicaragua, where it is stated the petiole is often 10 feet long.

How Trees Help.—I am not disposed to paint a word picture of my own home or its surroundings in winter, but as I look out upon the snow to-day, and notice how cheerful the brilliant green of the Austrian pines, hemlocks and spruces appear, toned down by the more somber colors of the various species and varieties of the arbor vitae, I cannot help thinking that, if the surroundings of farmers' homes are so cheerless in winter, it is merely because there is no disposition on the part of the farmer to make them otherwise. The first cost of our best and most hardy evergreens is so trifling that no one need put that in as an excuse for not planting them, after which very little attention will insure beautiful trees in a very few years. A few handsome evergreen trees about a place soon change the entire aspect in winter, and instead of the cold, cheerless outlook, they will impart to it warmth and beauty.—*Moore's Rural.*

Errors in Ornamental Tree Planting.—A few days since, in passing through the

pretty village of Warren, the capital of Warren county, Pennsylvania, I was forcibly, not to say painfully, struck by the utter want of taste and judgment displayed by some of the residents, in the matter of ornamental tree planting. In some of the instances referred to, evergreens were planted in the immediate front of the houses, and so near to them that, although they had obtained only a partial growth, the branches had already intruded themselves into the verandah, thereby not only inconveniencing the residents, but presenting anything else rather than a handsome appearance, and threatening, in the course of a few years, to almost entirely exclude the sunlight from that portion of the premises. Many old residences are open to similar objections. No greater error in taste, or in the important matter of health, can be committed than this. Trees, however beautiful, should never be planted so near the house as to bar out the sunshine. There is no more effectual method of destroying their beauty, nor a better plan for introducing disease. I have known houses, thus crowded upon by trees of dense foliage, that became so unhealthy as to be regarded as almost untenable. They were restored to fitness for human habitation by removing a portion of the trees that obstructed the sunlight and the free circulation of the air. Another error in ornamental tree planting is the setting of trees of large growth in small yards, and especially, as is frequently done in cemetery lots. Just as lofty mountains dwarf adjacent hills, so large trees have the effect of lessening to the eye the size of small yards or small buildings. It is sound and seasonable counsel, therefore, to advise all persons who are about to plant ornamental trees adjacent to dwellings, or in small yards or gardens, to have an eye to taste and health. Let them be in keeping, in point of size, with the building or plot they are intended to beautify; and, moreover, let the planting be not so close as to shut out the blessed light of the health-giving sun.—*Journal of the Farm.*

A Nebraska paper describes the advantages of that State in this glowing language: "Who says farmers cannot get rich in this State? Fifteen years ago, a young man came to this State, without a dollar in the world. Last week he went out of the State, carrying with him the sum of one dollar and thirty-eight cents, the savings of fifteen years of frugal life. Come West, young men, come West!"

Charm of a Garden.—It is, indeed, the frequent change, the never-wearying variety, that is the main charm of the garden. You leave home for a little time, and when you return, lo! everything is changed. New colors, new forms, new perfumes greet you. There are fresh flowers on the stem, fresh fruit on the bough. Few things are more enjoyable than a first walk in one's garden after an absence from home. Few men who are really fond of gardening ever care to be long away from their household gods. It is, indeed, one of the most salutary effects of a love of gardening that one's thoughts seldom turn towards the delights of vagrancy and the charms of strange places.

A Beautiful Rose.—About a year ago, says "Daily Rural Life," in the *Rural New-Yorker*, my gardener purchased, from one of our large florists, a dozen plants of a *Countesse de Bertha* rose, which has proved to be one of the best perpetual blooming sorts that I have seen. The flowers are of a deep pink color, quite large, double and elegant in form, and the fragrance is most exquisite, being entirely indescribable, but may be called a spiced sweetened Tea. A bud cut off when it begins to open, and placed in a room, will perfume the entire atmosphere within for one or two days. The plants are very vigorous, not being subject to mildew in the house, and they bloom almost continually; even small plants struck out from cuttings bloom when only a few months old. We may have more showy varieties, but there are few that will please better than the *Countesse de Bertha*.

The "Geographical Garden" is one of the latest novelties in Paris. The idea seems to be to inform the masses a little more definitely as to the whereabouts of Persia. A space of ground is laid out to represent the "five-quarters" of the world; kingdoms are separated by gravel walks, and continents by rills. The geography of the globe can be learned in an afternoon, and a voyage around the world can be taken for one franc.

The Petunia.—The Petunia is really one of the most valuable summer flowering plants we have. Not much for cutting from, it is true, but still they are so easily grown, so indifferent to heat and drought, so continuously flowering, and flowering in so many of its shades of color so gaily, what in these valuable particulars can excel it?

There is, besides all this, some novelty in them. We recollect very well when the Petunia first came into general notice as a cultivated flower. It was then a pale rose color, and not half the size they are now. A few years after, the big, coarse, white flower kind got into our gardens, and since then there have been numerous forms and shades of color ranging between white and rose. The florist has taken hold of them and produced distinct races, and given them fancy names, borrowed from aristocratic people, as if that is the proper course to pursue in making aristocratic caste in Petuniadom. Then some of them are very sweet, especially at nightfall, and their odor attracts the night moths, until a bed of petunias of a light summer evening is by no means a small attraction in the most pretentious flower garden. And then they can be had so easily. A ten-cent paper will give plants which will flower where they are sown in six weeks afterwards.—*Germantown Telegraph*.

The Poetry of Trees.—Said Nathaniel Hawthorne: "The trees, as living existences, form a peculiar link between the dead and us. My fancy has always found something very interesting in an orchard. Apple

trees and all fruit trees have domestic character which brings them into relationship with man. They have lost, in a great measure, the wild nature of the forest tree, and have grown humanized by contributing to his wants; they have become a part of his family, and their individual character is as well understood and appreciated as those of the human members. One tree is harsh and crabbed, another mild; one is churlish and illiberal, another exhausts itself with its free-hearted bounties. Even the shapes of apple trees have great individuality, in such strange postures do they put themselves, and thrust their contorted branches grotesquely in all directions. And when they have stood around a house for many years, and held converse with successive dynasties of occupants, and gladdened their hearts so often in the fruitful autumn, then it would seem almost sacrilege to cut them down."

Vases and Baskets.—Mr. Vick, in his *Floral Guide*, expresses himself strongly in favor of garden vases. 'Of all the adornments of the lawn, nothing is more effective than a well filled and a well kept vase. Of course it is better to have one of a graceful form; but almost anything will look well if adorned with healthy, and particularly drooping plants. It is not of much importance what the plants are, if they are only vigorous. All the ornamental-leaved plants are appropriate for the top or center of the vase, while a few drooping plants should be placed near the edge and allowed to hang or droop at least half way to the ground. For this purpose the Verbena or the Petunia will answer. Indeed, few plants appear better than a good strong Petunia.

My readers, I presume, have often observed that vases that are well planted, and for a season in the spring appear promising, and give encouraging signs of future beauty, about mid-summer become very unsightly, and continue to grow worse until they are really ugly, and are finally removed. This, my observation induces me to believe, is the fate of three-fourths of the vases that are purchased in the spring and planted with

great care. There is one cause, and only one for all this difficulty, a want of water. The plants are allowed to dry up, root and branch. They may get a sprinkling once in a week or so, but this is useless, at least so far as preserving the health or lives of the plants are concerned.

People do not seem to understand why, if their flowers do without watering, their vases cannot. Please to observe that only the upper surface of the flower beds are exposed to sun and air, while at the bottom is the cool, moist subsoil. Then there is a large body of earth, and if the bed becomes drier than the surrounding earth it soon absorbs moisture from the more moist earth around, like a sponge. In a vase you have but a few quarts of earth, while it is exposed to sun and drying winds on four sides, which soon takes every drop of moisture from the earth and the plants famish.

Place your hand on a vase any time in a July day, and you will not wonder that your plants need plenty of watering. To remedy this defect, or rather to prevent the rapid evaporation of moisture from the earth, double vases have been devised, with a space between, filled with water. Some line their vases with moss, but we have found this altogether unnecessary. We have but one rule, and never fail to have gorgeous vases. Our rule is to give the earth a thorough soaking every evening, and the leaves a good showering from the nose of a watering-pot. We care nothing for heat or drouth, or any patent contrivances. By the middle of the season we could sell every vase we have on our grounds for more than double their real worth, and to persons who started in the spring with vases as good and as promising as our own, but who allow their plants to perish for lack of water.

Blue King is the name of a new and really good blue-colored bedding Pansy, just introduced in English gardens. The flowers are described as fine in form, of a deep, vivid blue color, with a bright and conspicuous yellow eye. It is not liable to sport, nor to be scorched by the summer's sun.

Floral Notes.

Grouping Plants.—There is no way in which the deadening formalism of our gardens may be more effectually destroyed than by the system of naturally grouping hardy plants. It may afford most pleasing results, and impress on others the amount of variety and loveliness to be obtained from many families now unused. Trees and shrubs, distinguished for their fine foliage, collected in a quiet glade; and then bright foliage trees should be set in contrast with quieter colors, and varied with bright beds of flowers and leaf plants, or hardy flowering shrubs. Those groups should be irregularly, but artistically, planted. Then, on a knoll, plant a large bouquet of the rosaceous family—hawthorns, cherries, plums, pears, peaches, almonds, etc. There is so much that may be done to add to the bewildering beauty of a landscape by naturally artistic planting, that we are often astonished that people do not “see it.”—*Rural New-Yorker*.

Ferneries.—In planting ferns of all kinds, it is well to remember that they do best in coarse-grained, not sifted, soil, except, perhaps, for seedlings which are being started under glass. A very tasteful addition to the plants of this rock bed will be a few roots of our common evergreen ivy, which will flourish beautifully, and cling to the stones over which it clammers just as upon a wall.

Another design for a fernery in a small front yard will be to build up a kind of pillar of rock-work, formed of old bricks or stones, whichever may be most convenient to obtain, leaving numerous openings on all sides, into which the ferns are to be planted, also tradescantia, saxifrage, or any other hanging plant, a bunch of handsome wall ferns, such as maiden-hair, forming a graceful tuft to crown the top. If in a very shady, damp place, the bricks will soon become green and mossy, which will greatly improve the general effect.—*Harper's Bazar*.

Shade Trees.—A house with shade and fruit trees set around it, a neat fence or

hedge in front, a row of box or pansies growing by the walk, and a climbing rose growing by the door, will sell for much more than if there were none of these, to any intelligent purchaser; so that, aside from the pleasure one takes in enjoying a pleasant and attractive home, it pays, in a pecuniary sense, to beautify the premises.

Landers' Love of Flowers.—He was always drawing analogies between children and flowers, and there was no mere fancy in the well-known lines:

“And 'tis and ever was my wish and way
To let all flowers live freely, and all die
Whene'er their genius bids their soul depart,
Among their kindred in their native place.
I never pluck the rose; the violet's head
Hath shaken with my breath upon its bank
And not reproached me; the ever sacred cup
Of the pure lily hath, between my hands,
Felt safe, unsoiled, nor lost one grain of gold.”

In his garden, he would bend over the flowers with a sort of worship, but rarely touched one of them.

“I remember,” he wrote to Southey in 1811, “a little privet which I planted when I was about six years old, and which I considered the next of kin to me after my mother and elder sister. Whenever I returned from school or college, for the attachment was not stifled in that sink, I felt something like uneasiness till I had seen and measured it.”

The form which the notoriety of this sentiment took in the Florentine legend was that he had one day, after an imperfect dinner, thrown the cook out of the window, and, while the man was writhing with a broken limb, ejaculated, “Good God! I forgot the violets.”

Cut off the flowers of roses as they fade; the second crop will be much the better for the attention. Seeds of all flowering plants should also be taken off. All this assists the duration of the blooming season.

Hardiness of Flower Seeds.—Every spring I look over my flower beds before spading, in order to ascertain what plants

are coming up from self-sown seed of the previous autumn. For several years I have never failed of an abundant supply of geraniums (Zonal), though generally they do not flower until late in the fall. In one instance, I had a geranium flower in four months from seed; but this does not happen often. I am always sure to find a large supply of petunias, candytuft, mignonette, calliopsis, dianthus, heddewigii, delphiniums, aquilegias, pyrethrums, pansies and some others; and this spring, for the first time, I find balsams shooting forth from seed which has remained in the ground through the winter. Now this may be unusual, or it may not; I cannot say. Yet it is a fact, and I believe it to be worthy of some consideration from those who sow seeds in the fall.

I believe plants come earlier, grow faster, prove stronger and every way better from self-sown seed, because less checks are put upon them to retard their growth and development; and, unless you are blest with a greenhouse, where you can force your plants along, there is certainly no way in which you can obtain any early bloom.

Seed carefully and properly sown by hand in autumn would have the same advantages as self-sown seed, and undoubtedly would prove as successful.—O. H. Peck, in *Rural New-Yorker*.

A Plant Worth \$160.—The *Gardener's Chronicle* says: "Mr. Stevens recently sold three lots of the Humming-bird *Mandevallia* (*M. Trochilus*) for £32. The plant is thus described in the catalogue: '*Mandevallia Trochilus* (*Colibri*, humming-bird), the king of the Mandevallias, and the largest flowering species, with long tails, in the way of *Cypripedium Caudatum*, red-brown color, with blue reflex; very rare. Only a very few plants have been introduced.' Ten pounds ten shillings was given at the same sale for a plant of *Mandevallia Lindenii*."

The Japanese Apple.—A correspondent writes *The Tribune* as follows: The *Pyrus Malus floribunda* is a very beautiful shrub when in bloom, and is covered with an ex-

traordinary profusion of flowers. It has been flourishing in this country for the past two years, giving entire satisfaction in every way. All such additions to our list of hardy shrubs, combining all the requisites for general cultivation, should receive the notice that their merits deserve. A strong plant in the writer's collection, now just going out of bloom, has been one of the chief points of attraction to all visitors for the past two or three weeks.

Compost for Flowers.—In cleaning off the garden and flower borders, there is more or less of leaves, litter, etc., that must be disposed of in some way. Take it and make the basis for a compost heap for the winter; empty all the coal and wood ashes of the house over it, as they accumulate from time to time; save all the bones and refuse of the kitchen, and all the greasy dishwater, and the chamber-lye, and add them daily to the heap. Gather, if you can, from the blacksmith-shop or elsewhere, iron-filings or scales from the hammering of heated or rusty iron, the parings of horse-hoofs, and, with a little of sharp, sandy soil, add them to the heap. This, well mixed, in the spring, will form one of the cheapest fertilizers for all kinds of flowers in the open border.

Pyramidal Flower Beds.—A correspondent of the *London Garden* describes the mode by which he makes pyramidal flower beds, about six feet in diameter and six feet high—one or two of which, well made and planted, have a striking appearance in a flower garden. Of course they must be sparingly introduced. First, with a crow-bar, holes a foot apart are made in the circumference of a six-foot circle. In these are inserted, vertically, stakes or round poles, alternately four and a half and seven feet long. Within these poles build up a conical mass of strong loam about four and a half feet high, and with a foot or more space between the cone and the poles. Ram the earth well together to prevent settling as it goes up. Then draw the poles together

at the top, and secure the taller ones to a strong wire ring, six inches in diameter, and then run a wire around the tops of the shorter ones, and brace and secure all well together. Then plant the bed as follows: Lay alternate layers of smooth, damp straw and good garden soil out as far as the poles, inserting, while thus building, successive rows of plants for blooming. A strong, conspicuous plant is placed at the top. When finished, pare off all the projecting straws. Fill all the cracks with moss. The moss, if abundant, will give a good facing, and prevent the bed from becoming dry; and, when thus made, they have kept moist and needed but little watering.

Rustic Plant Baskets.—The *Floral Cabinet* makes hanging baskets for ornamental plants as follows: Get a wooden bowl, six inches deep, and a foot or more in diameter, and a few pieces of red cedar, with the bark on, and some crooked pieces of root and a yard or two of rattan. Split the cedar into two, and nail it neatly with fine brads to the outside of the bowl. The roots, fastened to the bottom, serve as a finish, and the rattan is attached to the edges as a handle. Fill this basket with ferns, ivy, etc.

German Ivy, Soil and Treatment.—The *Rural New-Yorker* answers a correspondent as follows: The climbing vine known as "German Ivy" is not, in fact, an ivy, or any relation of one, but a climbing species of Groundsel from the Cape of Good Hope. Its right name is *Senecio scandens*, and it resembles ivy only in its leaves, which are heart-shaped or angled. The flowers are yellow, and produce abundantly on old plants which are exposed to the sun and dry atmosphere; but, under such conditions, the plants lose their beauty, as the leaves become brown and burnt in appearance. The plant grows rapidly in almost any good, rich soil; but a light leaf mould, with a little decomposed barnyard manure added, is probably the best. Shade is indispensable, if a deep, rich green color is desirable in the foliage, consequently it is

very suitable for room decorations, and may be trained on trellises or around the walls where the direct rays of the sun never reach it. It is readily propagated from cuttings or layers, any small piece of the vine taking root and growing with great rapidity.

Variegated Vincas.—The best known Vinca (*V. minor*) is a common garden plant, and is known as Periwinkle or Running Myrtle. In old gardens, its creeping stems cover large patches with bright green foliage, from amongst which delicate blue flowers appear in early spring. The larger Vinca (*V. major*) is less hardy and not so common. It has larger and more rounded leaves than the other. Both these species have produced varieties with the leaves marked with yellow in such a manner as to make them decidedly ornamental plants. These variegated forms are frequently used for hanging baskets, but they do not hold their leaves perfectly during the winter, and are not well suited for house cultivation. For baskets and vases outside it, they are most useful plants, and when planted in a basket or vase, they hang over the edge with a very fine effect.—*Ex.*

Preserving Cut Flowers.—Cut flowers in vases will keep much longer if the vases are filled with white sand, and with water enough barely to cover it, or rather to keep it thoroughly wet. Water by itself rots the stems, so that they lose the power of drawing up moisture; but this does not occur so readily where they are thrust into wet sand. The sand should be washed by having water poured on it and drained off before use; otherwise, the salt which all sea sand contains will prove injurious. As wet sand is an unhandy thing to put into vases, it is well to have it washed and dry beforehand.

Mr. Pynaert has discovered, it is said, that *Lilium auratum* is a grand specific against house flies—that a small specimen of it in an apartment will keep it clear of these troublesome insects.

Editorial Notices.

The Greenhouse and Flower Garden.

We have added still another associate in our editorial departments—Mr. James Taplin, of South Amboy, N. J.—one whom we consider the most skilled of American gardeners, and who has been, for several years past, manager of the greenhouses of Geo. Such, Esq., at South Amboy, N. J. We believe this department (which we will commence in our February No.) will be found the very best of any similar department in the United States; and we propose to continue adding other features as excellent, until the name of THE HORTICULTURIST shall shine in letters of gold for its reputation and excellence of literary contributions.

Absence of Editor, Apologies.

The universal demand for the services of the editor of THE HORTICULTURIST to conduct an Agricultural Editorial Excursion to the West, to act as secretary at last session of American Pomological Society at Boston, and attend various fairs as one of the judges, will sufficiently explain his absence from home and literary duties during last summer and fall.

These anxieties being all disposed of, friends of THE HORTICULTURIST will accept proper apology for any lack of interest and originality in past numbers, and the future ones shall be doubly attractive.

Wanted.

The address of every gardener, florist, nurseryman, tree dealer, seedsman in the United States. Also, the names of gentlemen having greenhouses or conservatories. Subscribers will receive our thanks, if they will favor us with a list of each name, and forward them as they renew their subscriptions. We wish to send specimen copy of THE HORTICULTURIST to all such lists.

Vick's Catalogue.

This reached us first of all the great issues for 1874. Splendidly printed, and

prepared in Vick's excellent taste, it is a model in every respect. We beg pardon for laughing thus publicly at illustration on page 75. The artist's ideas of proportion of that room are too much for us. We would like to know how high that mantel piece is, and whether that man is able to read well from the light of a chandelier four times his height above him. Illustrations on pages 69, 81, 90, as also page 1 of cover, are very tasteful.

Proceedings American Pomological Society.

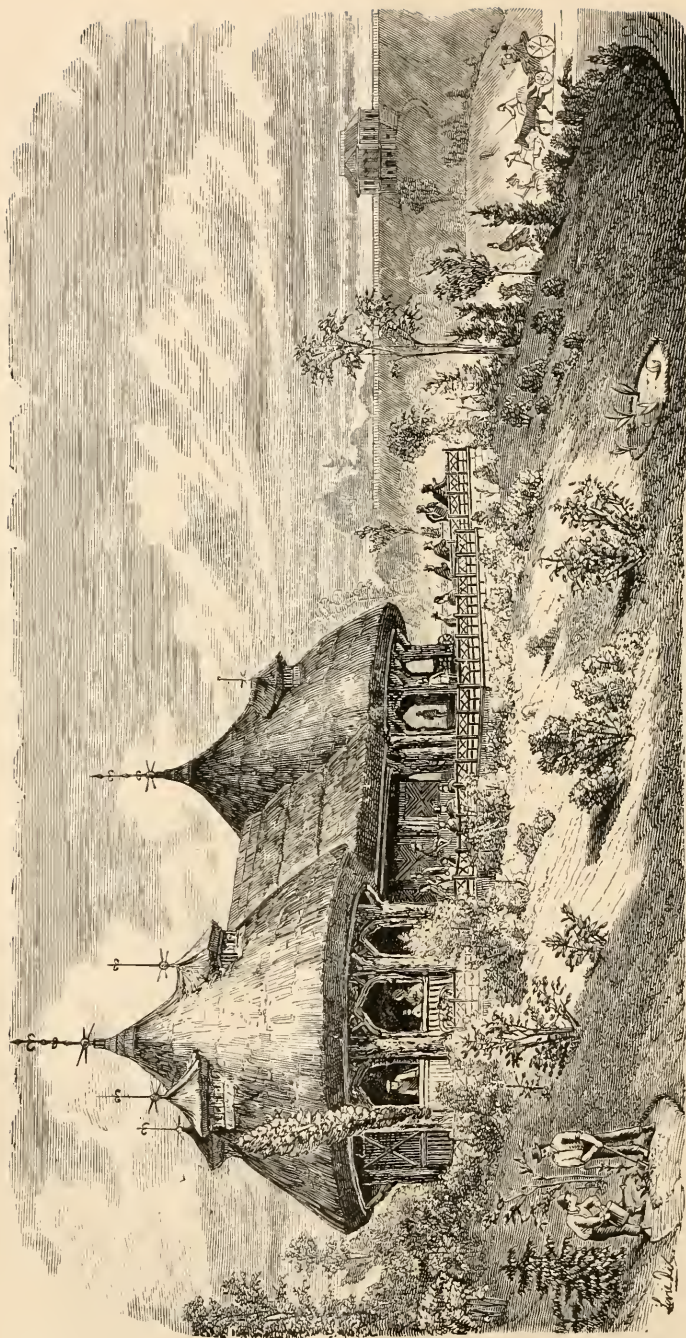
These are now passing through the printer's hands, rapidly, and there is fair prospect of the entire volume being ready within thirty days.

Briggs' Catalogue.

Briggs & Bro., the famous Seedsman and Florists, inform us that the January Number of their Illustrated Floral Work is now in press, and will be issued soon; that it will be the grandest work they ever issued—eclipsing their famous catalogues of '73 and '72. From the well known character of this house, we may expect something elegant.

We would call attention to the old and reliable Nursery Establishment of Storrs, Harrison & Co., Painesville, O., whose advertisement appears in another column.

Mr. James J. H. Gregory, of Marblehead, Mass., aims to supply one great want, which many a good farmer, when too late, has felt to his keen sorrow: Garden seed that know how to come up; and, when the crop is gathered, proves to be just the kind the label said they were. Mr. Gregory is one of the few seedsman in the United States who grows a large portion of the seed he sells, and he gets out a live catalogue, as would be expected of the original introducer of the Hubbard Squash. His illustrated catalogue will be sent *free* to all applicants.



RUSTIC SUMMER HOUSE, NEAR ENTRANCE, PROSPECT PARK, BROOKLYN, N. Y.



CORRESPONDING EDITORS :

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JAMES TAPLIN,

MARK MILLER.

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The Greenhouse and Flower Garden.

Greenhouse for February.

THIS is a month in which this structure should be at its best, and give more enjoyment than at any season of the year. The cold wintry weather we usually expect at this season, preventing ladies and invalids from spending much time in the open air, will give more leisure to attend to those numerous details which add so much to the attractions of a collection of plants, either large or small, and without attention to those details much of the charm of gardening is lost.

A few opening notes on these details will be of service to our amateur readers, and after being once attended to, will be seldom neglected in future. One of the first points to be noted is perfect cleanliness in both pots and plants; of course, educated gardeners do not require reminding; but often, at times, do neglect details for want of time, gardening being one of those businesses from which the largest amount of

work is expected from the smallest number of hands. This country is not alone in this requirement; it is much the same in Europe, where labor is much cheaper than in this country. This is a very mistaken idea, and cannot be carried out satisfactorily to any one concerned; it is far better and will give more satisfaction to the owner to have one small greenhouse, or even a Wardian case with plants and connections, in the best order, than to have a Crystal Palace with unhealthy plants in a slovenly condition.

In the first place, pot plants in a greenhouse should invariably have at least half inch clean sand to stand on, both for appearance and also for the welfare of the plants; even fine coal ashes is preferable to plain wood or stone stages; either material gives off a constant moisture, which in a measure counteracts the parching of the night's fires, and the dry winds and bright sun by day which we usually have at this season, although the present winter, so far, has more resembled the winters we used to have in England than the bright, cheerful weather of the average United States winter.

In the second place, no plant should be seen in a greenhouse with dirty pots, and the surface of the soil covered with a green confervoid growth; it is an eyesore to cultivated taste and unfavorable to the well-being of the plants. In the winter months, at least, there should be spare time to attend to this, without in any way interfering with the usual routine of work, and in summer there is often a stormy day which can be spared for these operations, which, when attended to as a part of the system, is not looked at as additional work.

Thirdly, never allow insects to obtain a footing, or they will soon spoil the beauty of the best grown plants, and lay the foundation for continual attention and no end of time in cleaning, with only temporary success.

I am led to preface these notes with the above remarks, from various mental notes taken in my rambles. In some instances I have seen what should be very nice houses, with many choice and valuable plants, entirely spoiled, as to enjoyment, from the neglect of these little finishing touches, and the thought was suggested how a nicely furnished drawing room would look in which the chickens had roosted for a few weeks, and in which the broom and duster had not been seen for that time. At this season, flowers should be abundant in quantity and variety; perpetual Carnations should be in full beauty and variety, also Bouvardias, both red and white; although *Jasminoides* is not so good for cutting as *Davidsonii*, it should be grown for the perfume which, in the evening, is very pleasant; this variety does best treated as a shrub, and planted out to remain in the greenhouse border for two or three years; it flowers all the year, and can be replaced by a young plant if it gets too large or dirty, which it is certain to do if kept under glass entirely. I saw some plants in a florist's place at Washington, from which he said he could cut bushels of flowers at once, and I could quite believe him. The Chinese Primrose is another indispensable winter greenhouse plant, which is in full beauty at this season; in fact, these

plants will continue flowering from October until April; there are many varieties of these—single, semi-double and double white and purple; the single varieties are very extensively grown in England for furnishing greenhouses and rooms, and among them are many very beautiful varieties; these, of course, do not last so long as the double varieties, and are of no use for cut flowers; the double white is admired by all, and is a capital flower for bouquets and wreath-making. I have had 600 flowers on a single plant of this variety at once.

The *Primula Japonica* is another very beautiful primrose for the greenhouse in February, and this variety, being nearly hardy, can be kept dry in a cool frame until wanted for the flowers; this species is single flowering and of various shades of purple and crimson color.

A few *Cinerarias* should also be in flower at this season, but will soon get dirty if the house is kept dry and hot, and at same time it is as tender from frost as an *Heliotrope*.

We must not overlook the charms of the *Camellia*, or, as our lady friends usually term these plants, *Japonicas*. With ordinary greenhouse treatment, these plants will be in full beauty in March, and although it can be cultivated to great perfection in pots, its full beauty can be only reached when planted out in the greenhouse border. The size and substance of both flower and foliage I have never seen surpassed by houses of *Camellias* so treated at Messrs. Princes' Exeter Nursery, at Lady Rolle's at Bicton, and the Duke of Devonshire at Chatsworth in England; and it is easy to bring them to the same state of perfection in this country, by giving the plants the same liberal treatment. I have seen a plant of the double white variety with more than 500 expanded flowers at once. Of course the white varieties, of which *Fimbriata* is the most lovely, will always be the most popular; but many of the red and striped varieties are very handsome, make a nice variety, and are also useful for cutting to mix in large vases of cut flowers; the old *Reticulata* variety, which is so seldom grown,

is a wonderful showy variety, with scarlet single flowers about one foot in diameter, but as the plant is not handsome as a pot specimen, it is neglected; but where it can be allowed plenty of room to grow in the border of a lofty greenhouse, it is gorgeous in the extreme. There were two plants trained on a wall of a glass-covered promenade at Chatsworth which had reached a height of about thirty feet, and in March each year were covered from bottom to top with flowers; but we shall probably have to wait until the large conservatories in Central Park are erected before we shall see it fully developed in this country.

The Rose should also take a prominent position among our flowering plants in March. Those who have a forcing house, independent of their cool house, will have plenty of flowers at Christmas; but from March the plants will grow and flower freely in any ordinary greenhouse. It is a pity the taste does not turn to the fine variety of hybrid perpetual Roses, as a variation from the Teas and China varieties; there is such a variety of color, delicate perfume, and the flowers are so beautiful when fully expanded—a remark which does not apply to the tea section. I am aware there is not the continual flowering, but I would suggest to the lovers of Roses they should try a few dozens of the perpetuals in pots, to bloom in early spring; they would be surprised at the brilliant colors and large flowers, which in this climate are seldom seen to perfection, from the flowering season in the open ground being at the hottest season of the year. I have grown them here, and can recommend them with confidence. A few of the earliest varieties of the Azalea will be now commencing to flower, and will add much to the beauty of the greenhouse; the flowers also last longer than later in the season, when the weather is hotter. There are now so many very fine varieties to be obtained at a cheap rate, it is a pity to occupy the space with many of the old fashioned sorts, with thin and bad shaped flowers.

It is a good plan to mix some whale oil

soap and sulphur, about one ounce of the former and half ounce of the latter to a gallon of water, and give the plants a good washing while at rest; it prevents the ravages of thrip and red spider, which, if not kept in check, is troublesome when the plants should be in full growth, and weakens them much by causing the leaves to turn a sickly color and fall off, so that the flowers are neither so plentiful or so fine as on a vigorous, healthy plant. I usually lay the plant over a tub in such a way that the shoots, which are very brittle, do not get broken, and with a powerful syringe dash the mixture thoroughly into every joint, and it usually keeps the plants clean for the season. The plants are turned on the sides to reach the under side of the leaves, which is the general hiding place for insects, and also to prevent the water from dropping on the soil in the pots; for although not deleterious in itself, it chokes the pores of the soil and prevents the water from passing freely—a matter of great importance in fine rooted plants like Azaleas. I may add, it is not advisable to use this or any other mixture on the foliage while the growth is young and tender, and certainly not when in flower; the foliage of Azaleas is very easily injured when in a young state, and requires great care if necessary to fumigate with tobacco at that time; but if the plants are clean before flowering, a free use of the hose or syringe each day while growing is usually sufficient to keep insects in check.

Hyacinths and Tulips will now be gay, and will require frequent attention with water, if expected to last some time in flower; these bulbs being generally grown in small pots, it is a good plan to stand the pots in saucers of water in which a pinch of guano may be placed; this will improve the size and color of the flowers.

Cyclamens will now be in full beauty; these plants are gems, both for greenhouse and room decoration, and if a little water is allowed to stand in the saucers, in a warm room with plenty of light, they will flower as well as in a greenhouse; but when the

bulbs are large, care is required not to water over the bulb, for it frequently rots the heart and the plant eventually decays.

A few pots of Mignonette and Heliotrope should be grown in every greenhouse, both for the delicate perfume in the flower and also for cutting a spray for a bouquet or glass of flowers.

A few violets should be grown in pots; a single flower of the Marie Louise variety will perfume a small greenhouse. Of course, where room in the greenhouse is limited, violets for gathering will be grown in a frame which is protected from severe frost; the Russian varieties, of which Czar and King of Violets are improved varieties, are hardy and flower all the winter in open ground in England; they will also stand the winter here in many places with slight protection, and winter well in cold frames, and also flower well if covered to exclude frost; a moderate frost will not hurt the plants, but it takes all the scent from the flower; these varieties are all dark shades of purple, which make them less popular than the Neapolitan, the neutral tint of which harmonizes with other colors; the Marie Louise is simply a great improvement on the Neapolitan.

A selection of flowering Begonias will be also in flower at this season, and now is a good time to strike cuttings for next autumn and winter blooming; young plants are better than keeping old ones over more than one season; the old plants will continue flowering indoors until it is warm enough to plant tender things in the flower garden, when they may be planted in the open borders, and will flower all the summer freer than indoors, and are very desirable and ornamental for that purpose; the plants can remain until cut down with frost, and then be cleared away with Coleus and other summer occupants.

A few plants of Hoteia Japonica and Deutzia gracilis in pots should be coming on for flowering; these are both very useful for cutting, and can be turned out of pots into the open ground when done flowering.

Flower Garden for February.

With the amateur this is a month of leisure

in this department, so it allows time to consider what improvements and alterations can be made in the planting arrangements, and to prepare plants, seeds and bulbs for that purpose; any variety increased from cuttings, of which the stock is likely to be short, should be removed into a good position to get a good growth for cuttings; or cuttings of such plants might be placed in heat to root with a view to further increase; but for growers of moderate quantities of plants for summer flower garden decoration, there is no advantage in propagating before March, with the exception of the above, but all the plants for planting should be arranged before that time, with a list of all the plants intended to be planted; of course, mental notes would be taken of satisfactory, and also unsatisfactory results in last season's planting, and if any alterations in beds or borders was contemplated it should have been completed before the usual time of freezing up; not that we have been frozen up at present this winter, but this is the exception; it is always bad policy to leave any ground work alterations, such as turfing and leveling, to be done in the spring, for under any circumstances there is always hurry and bustle at that season, and time cannot be found for alterations, or they have to be done in a slovenly manner.

Make a list of any novelties, to be tried on a small scale at first, if it is only known by report; this should be specially attended to as regards European novelties, for many of the most desirable plants for summer flower gardening there are total failures here; it is waste of time to expect the same results here with Zonale and Nosegay Geraniums as are obtained in the English flower gardens, and no American gardener would model his planting by the flower beds at the crystal palace at Sydenham. But if we cannot obtain satisfactory results by copying our neighbors over the water, we can obtain much grander and in every way superior ones by planting those things only suited to the climate, and which in Europe they can only persuade to grow at all, by great trouble

and expense in preparing the ground and plants beforehand ; then often, after keeping beds empty until end of June, there will be a cold stormy time directly the plants are out, checking them for the short season they can at the best occupy the ground.

The Pleasure Ground.

The Spruce and its Culture.

WHY not call them conifers, as do the English, French, and German writers ? We like the name, it is so much more expressive than evergreens ; besides, conifers, or cone-bearing trees, are not all evergreen, and the latter title reminds us of Rhododendrons, Kalmias, and dozens of other genera, having no resemblance to conifers, excepting, perhaps, that all have persistent leaves during the winter months.

And are we certain that the organs of conifers, usually known as foliage, are such in truth ; or are they, as the editor of the *Gardener's Monthly* informs us, mere leaf-like branchlets ? We must confess that we lean decidedly to the latter explanation ; as the facts, suggested by the above authority, bear the impress of truth, view them in whatever light we will.

However, as it is not our present intention to open a scientific discussion, we shall proceed to review, in a rather hasty manner, what we consider the most desirable species and varieties belonging to the splendid spruce family.

For the purpose of simplifying matters, botanists classify the true spruces, hemlocks, and firs, under the one expressive title of *Abies*, but making of each a distinct sub-genus or section.

In the first of these, we have two old gems of the first water, with an almost endless number of varieties emanating from the same. The *White Spruce* and *Norway Spruce* are unexceptionable in every way.

The latter is too well known to need any eulogy from us, but the claims of the former, we fear, are not sufficiently understood. It is the embodiment of symmetrical and

elegant formality ; whilst its near relative, the Norway, furnishes a perfect example of a graceful, stately tree. They are true types of the opposing classes in habit, although equally complete in outline. The one stiff and regular ; the other drooping and pleasingly unprecise.

It is to the numerous sports or varieties of the Norway Spruce that we especially desire to invite attention ; as, outside of some half dozen collections in this country, we believe they are almost entirely unknown. We have them of almost every imaginable size, form, and tint—from the little miniature dwarf, scarcely one foot in height, up to the proportions of a first class tree ; and again, from the strictly upright column, to the real so-called “ weeper.” Commencing with the dwarf forms, invaluable for the front of shrubberies, we would suggest, as remarkably fine, *Gregoryana*, although such kinds as *pygmæa* and *clanbrasiliana* are quite neat and pretty.

The upright form, *pyramidalis*, is very striking, and reminds one of an evergreen Lombardy Poplar. The pendulous variety, *inverta*, can be made to form an exceedingly graceful tree ; whilst the *monstrosa*, as its name implies, is a perfect monster, although drooping in general character. The Parsons of Flushing, L. I., have originated a variety which we admire as much, if not more, than any of the foreign introductions. It is called *alata*, and reminds one vividly of the green coral-like *Araucaria*.

The *Wales Weeping* is likewise very handsome, and, when better known, will become popular.

We recollect noticing a curious and pleasing dwarf form, in the specimen grounds of T. C. Maxwell & Bros., the nurserymen of Geneva, N. Y., which we consider superior to many in cultivation.

We now pass to the consideration of a newer, and very elegant species, the *Oriental Spruce*. It has proven so universally hardy, and is so remarkably attractive, that it deserves more than a passing notice at our hands, yet space compels us to pass on with

the remark, that every one should plant it who owns sufficient room to allow its full development.

Menzies Spruce, the silvery foliage of which makes it so conspicuous in its native haunts, in the Rocky mountains, does not succeed as we could desire in cultivation. It is, however, generally hardy, but drops its foliage prematurely.

The *Black Spruce* is handsome when young only, and cannot be recommended with confidence. The new species just about being introduced into cultivation, called after our eminent botanist, Dr. Engelmann, we trust will prove as beautiful as we have seen it at the timber line, on Gray's Peak.

The two new Japanese species, *polita* and *Alcoqueana*, have proven hardy for the short time they have been tested, and we expect to be able to report favorably as to their habit and general appearance.

In the hemlock section, we claim for the old, well known, common *Hemlock Spruce* the rank of best. It combines elegance of foliage with grace of habit and hardness of constitution. It is, in fact, one of the few trees for the "million," either for grouping, as a specimen, or for ornamental screens.

Already its numerous dwarf varieties are being disseminated, as among our choicest evergreen shrubs. The rare species from the Pacific coast have not yet been sufficiently tested to report upon, although giving evidence of exceeding beauty. *Douglas' Spruce*, we must reluctantly add, is not reliable at the north.

In describing the Silver Firs, we feel at a loss where to draw the dividing line between the really hardy, and partially hardy species.

Commencing with those which have given satisfaction in the middle states, we trust our readers will find sufficient beauty in the list to gratify all their wants.

The *Nordmann's Silver Fir* stands by itself, unquestionably the finest of its class. We are pleased with its hardness; charmed with its dark green hue; and satisfied with

its unexceptionable form and habit; so that we may rest assured that no other tree can excel it in any of these respects. Possibly the next in hardness, is the most formal of them all, the *Siberian Silver Fir*. It forms a dense, dark-green, conical mass of small branches and foliage, and is, on this account, particularly, pleasing. The *Great Silver Fir* is a model of beauty, and appears to succeed with excellent results wherever tested. We have seen it on the summits of the Sierra Nevada of California; on the Rocky mountain range of Colorado, and in the canons of the Wahsatch, in Utah; and everywhere it presented the same uniform, elegant appearance. The *Noble Silver Fir*, from Oregon and Northern California, is also, as its name implies, a noble specimen. The peculiar bluish-green hue of the foliage renders it a conspicuous object in a collection, and not the least handsome either. In its native localities it grows to an immense size, which in all probability will be greatly decreased in cultivation.

The *Cephalonian Silver Fir* has given very general satisfaction as far north as Boston, and in more kindly climates it is certainly a fine conifer. The regularity of its branchlets constitute a marked peculiarity in its habit. The newer Japanese species, *firma*, although comparatively a stranger in our midst, is winning golden opinions from all who have tested it in our climate, and we therefore trust to class it with our hardy conifers.

We feel sorry that we cannot say a better word for two well-known old friends—the *European Silver Fir*, and the native *Balsam Fir*. The former will not survive our coldest winters, and the latter has such a disgraceful habit of "thinning out" among the lower branches, that we must reluctantly give them up. We close our list with a charming little dwarf—the *Hudson Bay Dwarf Fir*; which is unquestionably hardy and valuable.

Some cultivators ask, "What shall I do with my trees?" We answer, in the autumn spread over the surface of the soil,

under each tree, a liberal dressing of well-rotted manure, and in the spring dig it in. Whilst young, preserve but one leading shoot, and protect with a few evergreen boughs; then let them alone, nature will do the rest.

New Roses.

BY C. P. HAYES, OF MILLER AND HAYES, PHILADELPHIA, PA.

IN my last month's communication on New Roses, I named several varieties of Hybrid Perpetuals and Teas flowering for us during the past summer, and referred to the success of the European growers in hybridizing. We, as lovers of this beautiful flower, owe, indeed, much to the skill and persevering labor of the French in producing from their extensive beds of seedlings, plants of the greatest vigor, and flowers of the finest forms and the most exquisite beauty. The credit of each grower is staked on every new variety issued, and annually they must send out those of equal merit, if not superior to former productions, or their reputation as growers or originators, under the rigid animadversion of the amateur and professional critics of England, would soon decline, and their pecuniary prospects suffer. Then is it not natural that from year to year, we may look for some novelties and worthy additions to our present collections? Whilst by their great zeal and activity, the French excel others in producing new varieties, and the English, by their careful and thorough cultivation, accomplish the finest exhibitional results, we, in this country, should, from our favorable climate, purity of air, and hot summer suns, not only ripen the best seed for growing plants, but produce plants bearing the most perfect flowers. Our climate differing materially from that of England and France, leads many to suppose that some varieties and groups do not attain as perfect growth as with them, which may, in some instances, be the case. Yet generally, from our observations, those of robust and vigorous habit do equally well, and

from many of the new varieties we have had flowers comparing favorably in size,* form, and brilliancy of color, with those exhibited at the special shows held annually at the Crystal Palace, London; and even in some instances, those classified by them as second rate have, under our hot suns, proven excellent growers, producing elegant flowers, and entitling them to first rank with us.

The hardy Hybrid Perpetuals, and more tender Teas, are the two classes or groups to which the French growers have given their closest attention; and in the former the most striking novelties have been produced. Only a few years ago, the list of Hybrid Perpetuals numbered less than fifty in all, now there are many hundred varieties. By skillful hybridizing of species, and commingling with others of same class, they have not alone retained the strength and vigor of the best older kinds, but in many instances increased vigor and robust habit has been added, together with brilliant and showy foliage, and beautiful flowers of the finest forms, and most exquisite colors, from the purest white, delicate rose, pink, and brilliant scarlet, to the deepest and richest crimson. By this same skillful mode of hybridizing, we have now in this group, roses blossoming freely during the entire summer, such as the pure white "Coquette de Alps," "Boule de Nieve," and the delicate rose-colored "La France," "Madame La Baronne de Rothschild," "Madame George Schwartz," and many others. This group, from its hardy qualities and luxuriant habit of growth, is specially adapted to open ground culture, and a bed planted with a choice selection of varieties cannot fail to call forth general admiration, as one of the most beautiful objects on a well designed lawn, or carefully cultivated flower garden; or when properly arranged with other medium sized shrubs, take a leading rank in the grouping; and some varieties of erect habit of growth are particularly adapted for pillar

* Flowers of H. P. Paul Neron, in our own grounds, measured $5\frac{1}{2}$ inches in diameter.

shrubs standing singly on the lawn or in the garden. In their growth they require as little, and in many cases less, care than other shrubs and flowers, only asking a rich and generous soil, full circulation of air, and bright sun.

In Tea Roses the novelties are less striking to the amateur, than in the group of Hybrid Perpetuals, from the natural color of the flowers being more subdued or less brilliant, though even in these brighter colors are being introduced, but probably they will never attain that distinctive brilliancy of the Hybrid Perpetuals. Matchless among other groups, for their delicious perfume, rare and delicately tinted flowers, easy grace, and sprightly bearing of both plant and flower, they will remain for many years the gems of the race.

But few, if any, of the Teas of former years exhibit the rich, vigorous growth of the very double deep rose-colored "Madame Celina Noirey," delicate saffron "Madame Berard" or salmon-yellow "Madame Trifle," and none the perfection, delicacy and richness of color superior to the nasturtium-colored "Ma Capucine," and coppery-yellow "Le Nankin;" the refined colors of the two last named cannot indeed be fully described, and can only be enjoyed by seeing their beautiful blooms of half-extended golden and coppery buds. The more double flowers than those last named, as "Madame Jules Margotten," "Perfection de Monplaisir," "Souvenir de Paul Neron," "Belle Maconnaise," "Marie Sisley," "Marie Van Houtte," "Reine du Portugal," "Madame Margotten" and "Adrienne Christophle," are composed of a beautiful combination of colors, some having pure white, others light yellow outer petals, with centers shading to coppery-yellow, rose and scarlet. This group blooming freely during the summer, and continuing to grow and flower late in the autumn, does not usually ripen its wood sufficiently to bear our severe winters, without some protection, though by carefully covering with leaves or other light material for several seasons, until they be-

come thoroughly established, they may be made to thrive, and blossom thereafter, with but slight shelter and care. They make a luxuriant growth when planted early in the season, and blossom freely after July, even from the smallest plants, and do well in any rich soil properly drained. Some varieties may be grown to advantage in pots for greenhouses and conservatories, whilst others, of climbing habits, are ornamental when trained up the rafters; but to grow to perfection, a house filled with Tea roses, producing a profusion of rich, green leaves, with a constant and perfect development of flowers varying in color, and embalming the air with delicious perfume, affords a delight and gratification that no other group or flower can give.

In my next, I purpose naming a few varieties of Hybrid Perpetuals and Teas, suitable for bedding in masses, pillars, climbing, and growing in greenhouses.

Grape Culture in Florida.

BY "AL FRESCO."

[CONCLUDED.]

I HAVE lands on the hills sloping to Lake Hall, where subsoils for four feet deep (as far as I have examined them) are composed principally of silex, with a sufficiency of clay to make them of a good character. The first 8 to 12 inches is a dark loam; the subsoil of a chocolate color, interspersed with lime stone, and a stone we call iron stone [ferruginous conglomerate]. On these soils the wild vines attain an enormous size, and are loaded with fruit. Most all of our soils will produce the grape well, but there are some that have a superior excellence. I will state our yield of wine in answer to your interrogatories; but at the same time will remark, that our vines have not received that attention they deserved, owing to the fact of Mr. B. and myself being cotton planters:

"No. of vines to the acre?" A Concord and Ives, 435; Delaware, 537. Vines trained on both trellis and stakes—trellis

preferable. Scuppernong, forty-six vines to acre; arborescent third year—trained to stakes before.

“Amount of sugar added to wine?” Varies according to the kind of grape, degree of ripeness and season. In good seasons, Delaware requires none.

“Number of gallons of wine to acre?” Concord, 800 to 1,000; Scuppernong, from 1,500 to 2,000 gallons to the acre.

“Price obtained for wine?” Concord wine sells here from \$2.50 to \$3 per gallon; Scuppernong, \$4 per gallon.

Scuppernong vines not subject to any disease. Market price of vines, \$15 per 100; \$100 per 1,000. Wages of male hands per month, \$10 and rations. Prevailing disease, fever and ague, yielding readily to mild treatment. Cleared land, adapted to grape culture, from 10 to 50 dollars per acre, according to location and quality. Highest range of thermometer, during summer, 92; atmosphere tempered by sea breezes. Freight per bbl., on vegetables or fruit, to New York, by express, \$2.25. Time, from Tallahassee to New York, four days. Concord and Ives ripen about July 1st; Hartford, latter part of June.

Mr. Bradford and myself have fine grape lands that we will dispose of to actual settlers, being desirous of forming a grape growing colony around us. The country is high and rolling, and locations can be had presenting beautiful views of miles in extent. If you know of any parties who contemplate coming south, and would like to engage in this business, if they will communicate with me, I will be pleased to correspond with them, giving them any information they may desire about the State.

I am, very respectfully, yours,

JNO. A. CRAIG.”

In the neighborhood of Tallahassee plenty of cleared land, admirably adapted to grape culture, can be purchased at from 8 to 15 dollars per acre. The region is elevated and undulating; and the grape grower can select any exposure he may fancy. The

soil is a deep, rich, sandy loam, with a suitable subsoil. Near Tallahassee is situated Lake Jackson, about 17 miles in length. It is surrounded by hills varying from 100 to 300 feet high; a large portion of the land surrounding the lake has been cleared, and in our opinion is eminently adapted to the vine. When I first saw Lake Jackson, nestling among gently sloping hills, I was induced to exclaim—“this is the home for the vine and the field for the grape grower.”

The country around Tallahassee is well watered by running streams and splendid springs. The winters are pleasant, but frosts occasionally occur of sufficient severity to injure orange trees. The summer's heat is tempered by the winds from the Gulf coast; and during the course of many summers, the thermometer does not rise above 90 deg. The main products are cotton, sugar, rice, potatoes—Irish and sweet—peaches, figs, plums and melons. Garden vegetables, of all descriptions, grow in luxuriance and abundance. During the autumnal months, fever and ague prevail, but not to the same extent as in some of our northern states. Diarrhœa, dysentery, rheumatic and pulmonary affections and continued fevers are not so common or so violent as in the north and west. Tallahassee is the center of an educated and refined society. Churches and school houses abound throughout the country; and the people, as a class, are intelligent, hospitable and generous. Oranges and bananas are an uncertain crop in the neighborhood of Tallahassee, and unremunerative. Tobacco would prove a paying crop—more especially if the seed was annually imported from Cuba. We are of the opinion that wheat would prove a remunerative crop—for the reason that the soil is adapted to its growth; and in Australia and California, where the winter temperature is somewhat similar, wheat is an eminently successful crop.

In our next we shall describe other localities, and refer to the peculiarities and culture of the Scuppernong grape.

The National Horticultural Society.

BY JAMES TAPLIN.

A NATIONAL Horticultural Society should certainly be started in this country, although perhaps the present time is not a good one to commence it. When money is scarce, science and learning is generally the first to suffer; but a large undertaking of this sort requires much previous consideration and discussion, so it is well to agitate the subject.

In commencing a project of this kind, much depends on the popularity and taste of the president and other officers of the Society.

The president should be a gentleman of influence and position, a well known patron of horticulture generally; certainly not a nurseryman or florist, as this would probably, among other reasons, cause a jealous feeling among the other members of the trade; neither should it be a man who can only see perfection in one branch of the profession, for in that case he would probably soon ride his hobby to death.

I need only to point to the present condition of the English Royal Horticultural Society to show how not to do it. This society has wasted money enough on hobbies and theories to have made it the most popular and useful society in the world. With the present result that at the end of every financial year, they are on the verge of bankruptcy, and there is a regular fight between the theorists and the few practicals who joined the society for the love and advance of horticulture, and who, hoping for better things, have not, like many others, quitted the society in disgust.

I have only to refer to the time when Knight, Banks and Lindley were the principals in the above society; then were the palmy days at Chiswick; the visitors were so numerous to the show that I have been obliged to pay six times the usual fare for a cab to catch a train in London. Compare the present condition, although patronized by

royalty and all the leading nobility of the country, and yet the shows do not pay expenses, for the reason that genuine horticulture is not represented at all, or only in the minority among the heads of the society.

Such men as Hunnewell and Sargent are the class of men required for president, and then select well known nurserymen and florists, including first-rate gardeners, as a working committee; and if decided to hold exhibitions in various States, select a local committee to join the general committee in carrying out the details, etc. There should be a library and rooms for meetings to discuss various subjects connected with horticulture, and at which any novelties would be shown to members, and the public generally. If considered desirable, new plants, seeds, etc., might be collected for distribution among the members without interfering with the regular dealer, by distributing things which would be purchased for a few cents from the trade.

In fact a National Horticultural Society would be of much service to all classes, and should be started at the earliest opportunity.

S. Amboy, N. J.

A Profusely-yielding Strawberry Bed.

THIS strawberry bed was, perhaps, thirty-five or forty feet long, and an oblong-square—the earth a stiff, yellow clay. It had been well prepared, by manuring, before the plants were put in it, which was done in the fall. The variety was Felton's improved Albany Seedling. They were planted in rows, at distances of four and a half inches, the rows being one and a half feet apart. Manure was put around the roots, which were then covered with tan to one and a half inches in depth. In the spring all the weeds were kept away, and the runners cut off until the plants were done bearing fruit. Tan was also placed between the rows, to prevent the berries from touching the ground.

This bed yielded ten bushels in one year, when well attended.

A lady having read, that if strawberry plants were cut down in July they would increase in productiveness, tried the experiment on her own bed, and found it true. A sister of this lady, residing in New York, owned a bed of fine strawberry plants. During the summer, they were eaten off by some straying sheep. She supposed the plants were killed, and proposed replanting them; but did not. In the spring they came up again, and produced an extra crop of berries.

Perhaps the cropping checked the tendency of the strawberry to throw its roots out of the ground; which, if unprotected in winter, must reduce the vitality of the plant.

A. G.

Reading, Pa.

Orange Culture in Florida.

BY AL FRESCO.

EDITOR HORTICULTURIST: I am amused at the communication of Oliver Taylor, in your October number, regarding my article on Orange Culture in Florida. I am opposed to controversy, but dislike to be unjustly censured and misrepresented; and solicit space for a few remarks touching the communication of our half-century critic. My object was to briefly refer to the opening for capital and enterprise in Florida, and, if possible, induce persons to visit the more favored portions of the State and investigate the subject for themselves.

Mr. O. censures me for not "telling the whole truth." I stated nothing but the truth, and if I told all the truth regarding orange culture in Florida, and described the many resources and advantages presented by the State, your columns would not present room for one of Mr. O.'s communications for months to come. When I write for horticultural journals, I select some practical subject and discuss it as briefly as possible, for I conclude that readers of such journals are posted in agricultural chemis-

try, and the theory and practice of horticulture.

Mr. O. refers to land speculators, and evidently intends to convey the idea that I am prompted by selfish motives, and use your columns for the purpose of advancing some land speculation. I do not own an inch of land in the State, nor am I in any way interested in any land speculation. But I am deeply interested in anything that can be produced at home, avoiding the necessity of importing it, and thereby retain in our country the metal we so much require.

It has been my privilege to visit more places on this earth than the piny barrens of eastern Florida, where it is evident Mr. O. has obtained his pomological and chemico-agricultural knowledge. I can assure your readers that I have eaten oranges produced in California, Pacific islands, Australia, South America, West Indies, Bermuda, Azores, Mediterranean, and under glass, in England and the United States, and I have yet to taste fruits equaling or even approaching that produced in Florida. Convinced of the superiority of Florida oranges and lemons, and the adaptability of the soil and climate of *certain portions of the State* to produce the fruit in the greatest quantity and perfection, coupled with the fact that we annually expend millions for the imported article, induced me to prepare the communication, trusting that some of your enterprising readers might be induced to visit the State and investigate the subject for themselves.

For the information of Mr. O. and possibly some of your other readers, I shall furnish a few facts and figures illustrating the importance of the subject under consideration. For the period of twelve months there were imported into the port of New York:

From the Mediterranean, 474,849 boxes, containing 112,462,600 oranges; 317,528 boxes containing 114,408,260 lemons; of this quantity 25 per cent. perished during the voyage.

From the West Indies, 45 cargoes, con-

taining 17,816,795 oranges; of this quantity 45 per cent. perished.

At one cent per fruit, at place of production, the oranges and lemons imported into New York alone in one year would amount to \$2,446,876. In Florida the lowest wholesale price for oranges is two cents per fruit unpicked. If we would take advantage of the soil and climate of Florida we could supply our wants. If we consider the amount of fruit that could find a market in the other ports and cities of the United States, the sum total for the crop that could be annually raised in the State would probably amount to ten millions dollars annually. Why send our needed gold to other countries for that which can be produced at home? Then again, instead of consumers being compelled to use spongy and acid oranges, and lilliputian lemons, they would be favored with such luscious fruit as can be produced in Florida alone.

Our critic informs us that he is nearly a semi-centenarian, and if age renders correspondents authoritative "Al Fresco" can assure your readers that his is on the shady side of 49, and that from his childhood he has been engaged in horticultural pursuits. Mr. O. refers to his experience of "five summers" in the State, but unfortunately omits to inform your readers what portion of the State he has visited or resided in—an important omission. A person familiar with horticultural pursuits might spend fifty and five summers in the piny barrens of Ocean county without becoming acquainted with the capabilities and products of Monmouth or Burlington counties, N. J. My first visit to Florida was in 1844, and the dose has been repeated on numerous occasions. My observations have not been confined to the "piny barrens" of the eastern portion of the State, but I have examined it from the Apalachicola river to the Atlantic, and from the gulf to the Georgia line,—not neglecting the "piny barrens" east of the St. John's river, or the attractive section of the upper Ochlawaha, or the interior between Tampa bay and Gainesville.

Mr. O. most learnedly refers to the "sandy foundation," with "a surface where much sand exists." No one but a greenhorn, or the embodiment of stupidity, would plant a grove on such soil. Mr. O.'s observations have evidently been confined to sections of the eastern portion of the State where wire grass struggles for a mere existence. He has evidently not visited or examined the rich soils with a loamy or clayey subsoil to be found on the Apalachicola, Ochlawaha, Withlacoochie, Hillsborough, Manatee, Crystal, Cheisowilsky and Wicawachee rivers, or the surprisingly productive and almost inexhaustable lands near Sumpter-ville, Tampa, Micanopy, Brooksville and Orange lake. If your correspondent would but visit, and carefully examine the soil in the Annatalogga and Charcoochartie hammocks in Hernando county, he would find about 80 square miles of loamy soil with a sandy loam subsoil that cannot be excelled by any land in the United States,—a soil requiring no manure and almost inexhaustible. I have stood upon the tops of hills three and four hundred feet high in the neighborhood of Brooksville, and those hills were covered to the top with a deep loamy soil that would make a northern trucker dance; and on the very tops of those hills I have gathered monstrous and luscious oranges from as healthy and luxuriant orange trees as can be found on earth. In all the localities referred to the orange can be grown with success. Such being the case, the intending planter will not find it necessary to search for the "shell mounds" or rich "bottom lands" referred to by Mr. Oliver. For size, color and marketable properties of the orange, the neighborhood of Brooksville cannot be excelled, yet strange to say, in this very neighborhood cleared and excellent land adapted to orange culture can be purchased at from 6 to 15 dollars per acre. Water is excellent, health unsurpassed, range of thermometer never so high in summer as in our northern States; during the summer a daily sea breeze from the gulf but fourteen miles distant. These

advantages, coupled with an intelligent and hospitable people, renders it a more eligible situation for orange culture than the barren region described by Mr. O.

(TO BE CONTINUED.)

Window Gardening.

BY PANSIE.

ONE of the best for fine effects, but which I have never seen specially noticed in the books is the single scarlet African Hibiscus, a shrubby plant resembling the "Rose of Sharon" of old fashioned gardens, with dark green, glossy leaves and splendid, tropical-looking flower of a brilliant scarlet, as large as a coffee saucer. The stamens are yellow and the pistil a dark velvety red. The flower buds are formed on the terminal branches, and it is in almost constant bloom both in summer and winter. It is of the easiest culture and requires but the ordinary temperature, the only drawback being that the gorgeous blooms only last a day; but they are so bright and attractive that I should never be willing to be without them. My two plants are of different species and have been in my possession for several years. I sink the pots in June, and they do equally well in the yard all summer. Geraniums, of course, are indispensable and grow and bloom profusely in such a window. I have a very novel effect on one—a zonale green, with a lighter zone. A pure white shoot, both stems and leaves, has been thrown out, which retains its color as it continues growing, although standing in full sunshine. I hope to be able to propagate it. Then, there are the old favorites usually grown—roses, pinks, azaleas, accacia, primroses, bouvardias, mahernia, etc., etc. I even find it possible to raise some hothouse plants by placing them on a high shelf in a warm corner, and succeed with begonias, heliotropes, poinsettia, euphorbia, coleus, and many of the foliage plants, which retain all the glory of midsummer.

But the gem of all is a magnificent calla of about sixteen years. A pot containing three large bulbs and some smaller ones, with large leaves and lovely golden-hearted lilies (for it is almost always blooming with three or four flowers at once)—its majestic stateliness is very striking. I wonder if it is generally known that two flower-buds are produced from the same leaf-stalk? I cut off the first when fully opened and beginning to fade, and soon another bud makes its appearance beside the stalk of the first. The only culture needed is to keep the saucer filled with water, adding occasionally a few drops of aqua ammonia or guano water. Sink the pot in partial shade and let it care for itself during the summer, and do not disturb the roots more often than is necessary to remove extra bulbs. A fuchsia—I think a *speciosa*, as it blooms constantly—has grown into a fine specimen. It is of trailing habit and has been trained up the side of the window. Some of the branches are five or six feet in length, the leaves are large and ovate and beautifully veined with red. The flowers grow in long clusters on the ends of every branch and keep forming; as fast as the first ones bloom new buds grow out. Sometimes I have had over twenty flowers on one branch at a time, with buds still coming.

For delicate climbing vines I find none prettier than smilax and maurandias. The foliage of both is most graceful, and the latter blooms and grows either out or in-doors. Some of my pots of it are several years old. I take out the roots in June and plant them, and they soon run up six or seven feet and are covered with wreaths of bloom. In September they are taken up, cut back nearly to the roots, and they soon start into new growth again. They also make fine climbing plants for hanging baskets—as, for instance, a white one growing upon the wires, crimson-leaved altenantheras around it, with a fringe of the delicate blue lobelia. One basket that is always showy and sweet is just a mass of sweet alyssum. Tropaeolum in variety, and especially the dark Tom Thumbs, climbing

and drooping, are very gay, and fragrant as well; and nothing can be sweeter than mignonette grown in this way. Transplant some seedlings in August. The *Tropæolums* may be very easily rooted in sand, soil or water at the same time. The German Ivy (*Senecio scandens*) is always graceful and of very easy growth. I have found it most likely to bloom if left undisturbed in a basket or vase for two years, blooming freely toward spring the second season, with clusters of yellow balls, rather pretty. Last fall, in gathering ferns, I found some exquisite sprays of the Virginia Creeper, which I pulled up by the roots, and planted in a basket, with ferns and other wildwood treasures. The leaves turned scarlet and dropped, and I supposed all was gone; but in March it sprouted out, and is now growing as lustily as though perfectly at home. I presume this is not a new experiment, but I have never seen it before, and think it will make a fine basket-plant.

As to my ferns, I am more and more in love with them day by day. It is said that our native ferns are not a success for house growth, because they are deciduous. It is true that those planted in autumn lose most of their leaves; but they start into growth very early, are more delicate and graceful than ever, and it is very interesting to watch the brown fronds develop into a perfect leaf. Then, if they are allowed to remain in the window all summer, the leaves grow more beautiful and do not wither, but retain their greenness all winter and commence growing earlier, so that they are "things of beauty and a joy forever."—*N. Y. Independent*.

Irrigation.

EDS. HORTICULTURIST:—Dear Sirs: You inquire in November No. in regard to irrigation. Now, we raise all we have by that style of fertilizing by moisture, and take pleasure in giving your readers the benefit of our experience. To begin: the plat of ground you wish to moisture must be below running water, and should be graded, or

terraced according to lay of ground, in such manner that the water runs nearly level, only allowing fall sufficient for water to run slowly. Now make your (strawberry) rows two feet apart, and plant a foot apart in rows, and make a small, even furrow with the hoe between the rows, either before or after setting the plants. Rows should not exceed four rods in length without a head ditch.

Now, either by damming or otherwise, turn water enough for your purpose from natural to an artificial channel, and bring it into a nearly level head ditch, at the top of ground to be watered, and carefully manipulate, so that the water be evenly distributed in the rows you wish to wet at the same time. If you wish rows longer than three or four rods, make other head ditches and bring the water along outside the patch, and into the head rows as desired.

There may be walks between the terraces or platoons, and also a tail ditch to catch the water from the terrace above, and which should be brought around the walk into the head ditch; water can be put upon a garden when desired, and remain until the ground is well soaked. We have had strawberries from April to Christmas, from any variety of plants. By keeping plants well wet, after first crop the vines go on blossoming constantly, though not in full crop as at first in spring. The command of a stream of water for irrigation would be invaluable to a gardener oftentimes.

Yours, J. E. JOHNSON,

Editor *The Utah Pomologist*.

St. George, Utah.

Quince on the Thorn.—A correspondent of the *Country Gentleman* says the quince does admirably upon the White Thorn, either by budding or grafting. So propagated, the grub, which works upon the root of the quince, is avoided. The tree is somewhat dwarfed, thus worked, comes into bearing sooner than upon its own roots, and a crop almost a sure thing annually.

THE

Western Horticulturist.

Grapes—Varieties, Culture, etc.

Essay, by G. W. Campbell, for American Pomological Society.

GRAPE-GROWING, in most parts of our country, is at present in a state of extreme depression and neglect; and the time is probably not distant, if it does not already exist, when there will be a scarcity of grapes in the land.

The causes which have led to this state of affairs, are not difficult to determine; and may be regarded as only a natural result of the undue and unreasonable exaltation of this important interest a few years ago. What has been, not inaptly, termed the "grape-fever" prevailed most extensively; and among nearly all classes of landholders the high road to fortune was thought to lead directly through the vineyard. Consequently, large areas were planted with grape-vines—in many cases, in soils and situations wholly unsuited to their culture; in others, with varieties not adapted to their several localities; and in others still, where, although the natural conditions may have been favorable, the requisite knowledge and skill were wanting to insure success.

Advantage was also taken of the popular enthusiasm by interested parties, to recommend and extol new and untried varieties as suited to universal culture, which proved to be either valueless, or extremely limited in their adaptation. The consequences of this indiscriminate and inconsiderate course were inevitable. Failure, and consequent disgust cooled the ardor, and extinguished the brilliant anticipations of thousands, who learned, by sad experience, that intelligent and skillful industry were as necessary to success in grape-growing, as in other pursuits.

It is perhaps unnecessary to pursue this

branch of the subject further; but I wish here to express the confident belief, that, notwithstanding past discouragements, and present depression, there is a future for grape-growing in America as grand as was ever dreamed of by the most excited enthusiast, when success shall be as distinguished as our failures have been ignominious—and when every man may not only sit under the shadow of his own vine, but may rejoice in the enjoyment of its refreshing fruit and generous juice, which we are assured were given to make his heart glad.

I believe this, because I believe in the unlimited capabilities of my country, and in the indomitable and irrepressible energies of the American people. With every variety of soil and climate, her mountains and hill-sides, her rich valleys, her fertile and almost boundless prairies, the genial banks of her lakes and rivers, all that is wanting is the judicious selection of varieties suited to the various localities, followed by intelligent and persistent industry, to make America the vineyard of the world! And if we have not now the proper varieties for every clime where the vine will flourish, between the sunny south and the frozen north, we will produce them. Then will the labors of Rogers, Arnold, Underhill, Ricketts, Wylie, and others, both north and south, in the production of new varieties by hybridizing, be recognized and appreciated by every cultivator and lover of delicious grapes.

It is doubtless idle to expect that any one variety of remarkable excellence will ever be found, which will be suited to all localities in our wide-spread and varied country. Perhaps the nearest approach to this, yet discovered, exists in that hardy child of Massachusetts, the Concord. From her descendants, produced by a judicious crossing with the finer foreign varieties, we may confidently expect the most valuable and important results. Next, although inferior in quality, may be named the scarcely less rugged Hartford Prolific, from Connecticut. In the same class may be found the

Ives, from Ohio; Martha and Telegraph, from Pennsylvania; and Belvidere, from Illinois. In the way of improvement in this class of hardy natives, I will mention a new variety, from Zanesville, named Lady, specimens of which are, for the first time, on the tables of the society. It is a pure Concord seedling; and in habit of growth and foliage, scarcely distinguishable from its parent. From three years' observation, I should say it is its equal in vigor, health and hardiness. Color light green—would be called white—bunch rather less than Concord; size of berries fully equal. In quality rich and delicate, without hard pulp, and scarcely a trace of foxiness. Ripens very early—ten days or more before Concord. It is apparently a most promising, perfectly hardy and healthy, white grape; and I think it will hereafter hold a prominent position among the most popular hardy native grapes.

With a passing notice of the favorite little Delaware, I will leave the discussion of particular varieties: The discovery and introduction of this grape marked an era in American grape-culture; and it has perhaps done more to educate and elevate the public taste, as to the quality and excellence attainable in our native grapes, than any other circumstance. And to its influence may be attributed, in a large degree, the mania for grape-culture, which pervaded the country a few years since. And although it must be confessed that the Delaware has disappointed many of its admirers, by reason of apparent caprice and coquettishness, others who have studied its wants and requirements, and learned that it will endure neither estrangement nor neglect, find it still all that can be desired—always charming, fruitful and reliable. The greatest fault of the Delaware, and indeed almost its only one, is a delicacy or tenderness of foliage which renders it unable to resist the attacks of *oidium*, or mildew of the foliage, in seasons and localities where that malady prevails.

The attention of hybridizers and grape-

growers has been for years directed to the production of varieties having the excellencies of the Delaware combined with stronger foliage, capable of resisting the attacks of disease. That complete success in this direction will be ultimately reached, if indeed it has not already been attained, I have no reasonable doubt. And an experience of near twenty years, in experimenting upon the capabilities and possibilities of improvement of the American grape, by hybridizing, forms the ground of this confidence.

The one point which I consider as important, above all others, in this pursuit, is the fact, which I regard as fully established, that a hybrid or cross between a hardy native and a tender exotic grape may have the hardiness of constitution and vigorous, healthy foliage of the native, while the fruit may possess the delicacy and excellence of the foreign parent. I have seen grapes of this character, both from Mr. Ricketts, of Newburgh, and Mr. Underhill, of Croton Point; and I have myself grown hybridized seedlings from Concord, and other hardy native grapes, which retain all the vigor of growth, and very nearly the hardiness and health of foliage of the Concord, and produced grapes very difficult to distinguish from Golden Chasselas, Muscat Hamburg, and Chasselas Musqué either in appearance or flavor; and all raised in open garden, wholly unprotected, and with only ordinary care. If these facts do not point to a glorious future for American grape-growing, I confess myself unable to comprehend their significance.

A few remarks upon hybridizing may be of interest. Hundreds of vines are doubtless grown which are supposed to be hybrids, but which are only simple seedlings. To be certain of success in this pursuit, great care and very delicate manipulation are necessary. The bud must be opened prematurely and all the anthers removed from the grape-blossoms before the pollen-cells have burst. The incipient cluster, thus prepared, should be enveloped in an oil-silk covering to prevent the embryo grape from being impregnated,

either by the agency of insects, or by pollen floating in the air. Pollen, from whatever variety it is desired to impregnate the parent grape, should then be carefully applied to the prepared bunch, and the silken envelope retained until the growing berries indicate that the process is complete. Seeds saved from these grapes will produce plants, some of which will resemble the foreign, and some the native parent. Those only, whose habit of growth and foliage resemble the native parent, should be saved—as my experience has shown that the more nearly these seedlings follow the foreign kinds in foliage, the more they are subject to mildew and rot; and are consequently of little value for general use. Many of the hybrid seedlings will be found with thick, strong foliage, in texture and character like our natives, and it is among these we must look for grapes of the greatest value, hardy, healthy and bearing fruit of improved quality.

In this connection, I wish to make public a discovery, which I believe to be entirely new, and which I think will be of great value to all experimenters in growing hybrid and seedling grapes. It is a method by which the future character of the fruit of a grape-seedling can be determined in the first year of its growth—years before it can be brought into bearing. To illustrate this: I had three vines selected from a lot of seedlings grown from Delaware, crossed with Grizzly Frontignac. Three years before they came into bearing, I announced that No. 1 would bear a black grape, having the Frontignac or Muscat flavor; that No. 2 would bear a red or white grape without the Muscat flavor; and that No. 3 would also bear a red, or white grape, with the Muscat flavor. This prognostication was the more remarkable, because I had never, up to that time, raised a grape seedling having this peculiar flavor, found only among foreign varieties and their hybrids. When these grapes came into bearing, my predictions were found entirely correct. Nos. 1 and 3 had the Muscat flavor; No. 2 was flavored like the Delaware, with no trace of the

Muscat; No. 1 was black; Nos. 2 and 3 red. A year or two later, of seven seedlings from Concord, crossed with Chasselas Musqué, I selected two as promising to have the Muscat flavor, and five without. Six of the seven have now borne, and the two selected have the flavor of the Muscat as distinctly as the Muscat Hamburg and Chasselas Musqué, which they severally resemble, while the other four are as free from it as Chasselas Fontainebleau. One more incident will probably give as full an idea as may be necessary of the extent and capabilities of this discovery. A chance seedling, selected by my gardener for its fine habit of growth, handsome wood and healthy foliage, had all the appearance, especially in its prominent buds and elegantly lobed leaves, of a most promising hybrid. The wood, the form of the buds and foliage, very strongly resemble the foreign varieties. The application of my test, however, indicated that the fruit would be of the character of our wild forest grapes. I need hardly say I waited its bearing with some anxiety—for every appearance of the vine was adverse to my prediction. But, as in every other case, the correctness of my discovery was triumphantly established. It bore a very small, black grape, nearly all skins and seeds, and of a sour and acrid character, wholly uneatable.

Repeated and unvarying tests of a similar character have so far convinced me of its entire correctness, I do not hesitate to announce that, *in the TASTE, or FLAVOR of the green tendrils of the vine may be found a true index of the character of its fruit.* Although this is something that cannot be exactly defined, or accurately described, it may be acquired by any one with a nice, discriminating taste. Go into a green house where foreign grapes are growing, and taste the tendrils of the Muscat flavored varieties, and of the Black Hamburg and Chasselas, and you will soon learn to distinguish the difference, which is as distinct as the flavor of the grapes themselves. Again, taste and compare the flavor of the tendrils of Concord

and Hartford Prolific with those of Delaware, Allen's Hybrid and Iona. You will find in each, distinctive differences suggestive of the character of the grapes. Then test and compare the native wild grapes, the Fox and Frost grapes of the woods, with the tendrils of our cultivated varieties, and you will soon learn easily to distinguish the wild from the cultivated.

The limits of this paper will not permit me to enlarge upon the subject of vine-culture. I will, however, venture to express my disapproval of cramped space and close pruning of the vine, especially during its summer growth. The American vine and the American people are not unlike in this respect. They require room to spread themselves, and do not thrive under restraint. Give the vine plenty of ground-room that its roots may have ample space in which to obtain the sustenance requisite to the production and maturity of its burden of fruit, and it will require a corresponding space above ground upon stakes or trellis for the accommodation of its luxurious growth and abundant fruit and foliage. A certain natural equilibrium exists between the roots and upper-growth of the vine, which cannot be disturbed to any considerable extent, especially during the growing season, without serious injury. To illustrate this: I have planted a young and healthy vine, with smooth and perfect roots, in early spring. When it had made a growth of two or three feet, I have cut it back to a single bud and leaf at its base. After this, the plant remains apparently dormant for ten days or longer, when the bud slowly swells and breaks; and if it is a hardy and vigorous variety, is soon making a new growth, but with less than its former strength. When it has again attained a similar growth, I have again shortened it to one bud and leaf above the former cut. A longer period of rest now ensues, followed usually by a weak and spindling growth of a few inches, with scarce vigor to ripen a bud or two at its base before the autumn frosts have destroyed its foliage. Now, if

we take up this vine, we shall find that all the new roots which had formed previous to the successive cuttings of the top, are dead and rotten. Only the old roots, which the vine had when planted, remain, and these rough, knobby and diseased—the vine in no respect as good as when it was planted in the spring. The vine will bear, without apparent injury, any reasonable amount of pruning during its dormant state, in fall or early spring; but I think the above experiment proves that any severe cutting during summer is an unmitigated evil. All the summer pruning I would recommend, would be the early rubbing out of superfluous shoots, upon their first appearance; leaving only what is required for next year's bearing wood. This, with the pinching or stopping the ends of such shoots or canes as were disposed to be too rampant in growth, would be all I would ever consider necessary. Some of the most successful grape-growers within my knowledge, carefully prune their vines in fall or early spring, and then leave them entirely without summer pruning. Much more might be said upon this and kindred subjects, but I fear I have already exceeded the limits proper for a paper on an occasion like the present.

Delaware, O.

The *Lilium Auratum*.

A FRIEND of the writer, who is an acquaintance of a successful amateur florist, gave an account of his plan for growing the *Lilium Auratum*, or Golden-banded lily. He thought that any soil, suitable for roses, would do for these lilies. He planted his four inches deep, letting the base of the bulb rest on the earth, so that the roots might strike directly into it. The sides of the bulb were surrounded with sand. These lilies had as many as nine blossoms on a stem.

Another amateur florist, who cultivates the *Lilium Auratum*, and other Japan lilies, in a greenhouse, told the writer that he had no trouble in producing fine large plants and flowers. After the plants are done

blooming, the pots are plunged in the garden, and well covered, where they remain until near Christmas, when they are again taken into the greenhouse. By that time the bulbs are well-rooted, having had regular moisture, and an unforced growth. The writer saw one of these lilies when in bud. The stem was at least four feet high, and the prospect for flowers very fine.

We had a very large bulb of the *Lilium Auratum* brought to us, one winter, to examine. It had been potted about three months, and had been kept in a greenhouse. It showed no signs of sprouting, and the lady who brought it was quite discouraged at the state of her fine bulb for which she had paid rather a large price. We found the bulb set on *top* of the ground, instead of under; and though the roots were numerous, and had covered the outside of the earth, there was not a leaf to be seen, nor any signs of their appearance. The lily was left to our care. We covered the bulb, by heaping earth over it, watered it daily, exposed it to the sun, in a south window, and in ten days a fine stem appeared, which, in course of time, produced four or five large flowers.

A lady, who, every winter, has fine white lilies in bloom, in her greenhouse, told the writer that she seldom had them repotted; but instead top-dressing them, and watered them with manure water. She used very rich earth. They were a large sort of *L. longiflorum*.

In our neighborhood, there is a general complaint that the Japan lilies do not flourish well. They may bloom for a season or two, but soon die out. We think the cause may be the clayey moisture-retaining soil, which does not suit the bulbs. We observed, during a visit, last summer, to Salem, New Jersey, that the Japan lilies there, almost without an exception, were in a thriving, healthy condition. This we attributed to the somewhat sandy soil, which being light and porous, did not retain moisture around the bulbs; at the same time the atmosphere is rather damp, which prevents too much

dryness, and retards evaporation from the leaves, which, if the earth was too dry, might exhaust them.

A traveler in Japan states that the soil is naturally a sandy one. Might we not conclude from this that all Japan lilies need a light and well-drained soil? This might be accomplished, in the garden, by taking out the soil from the bed intended for lilies, and covering the bottom with stones, bricks, coal ashes, or shells, to allow superfluous moisture free exit. Then the soil might be mixed with a light sand (some sands sink rapidly) and replaced. Our native lilies grow, mostly, on banks, or sides of hills, showing that a watery, or a continually damp soil, is not their choice, or healthful for them.

A neighbor-amateur has had a bed prepared, as above, this fall, for her choice garden lilies.

A. G.

Red Astrachan Apple.

THE Wisconsin Horticultural Society has for years recommended the Red Astrachan for general culture. It has also been highly recommended by the American Pomological Society. From these facts we might reasonably infer that it is a desirable variety, and one that everybody should plant.

Such, however, does not appear to be the fact. There are hundreds of the trees in this section, but we verily believe that there was not a bushel of them grown in this country last year. The trouble seems to be that *they do not bear*. Duchess of Oldenburg will bear five times the fruit. It is true the trees are handsome and hardy. What we want, however, is fruit, and we have never known the Red Astrachan to bear heavily. Some claim it to bear well. If it does, it must be on good sites, where other sorts do still better. From the length of time it has been before the public, it certainly ought to show itself in the markets and in every orchard. Does it do so?

A. L. HATCH.

Ithaca, Wis.



Hanging Basket of Ferns.



Editorial Notes.

Illustrations.

Rustic Shelter — Prospect Park.—The frontispiece this month is illustrative of a handsome specimen of decorative rustic art in Prospect Park, Brooklyn. It is situated at the summit of a natural elevation, approached from the entrance of the Park by a walk of gradual rise, but on the other side overlooks a bank of considerable precipitate declivity. From this point there is a fine survey of nearly all portions of the Park. Towards the south is the broad expanse of the lawn, and drives and paths of the Park extending to the verge of the woods. Eastward is the expanse of the meadows, gardens and farms of Long Island, and in the distance is discerned the deep blue of the Atlantic Ocean. Northward is the magnificent reservoir of Ridgewood water, and westward is the entrance of the Park, with the broad avenue leading down to the city. The building itself is a shelter of thatched roof supported by rustic beams and posts of rough untrimmed trees and cedar wood. The floor is solid stone or tile work, and in front is an open plaza, extending a few feet outward to the fence which overlooks the bank. The shelter will accommodate about 100 persons, is provided with rustic chairs and seats for all visitors desirous of resting, or who have alighted from the carriage to gain the benefit of a better view. Elegant equipages are constantly passing to and fro, affording life and

variety to a very pretty scene. The building is thatched with straw to the depth of a foot and a half, and is fully 100 feet long. The bank immediately in front is turfed with closely cut grass and planted with ornamental shrubs and evergreens. At the base is a small pool.

A Hanging Basket of Ferns.

In this number is published a handsome illustration of a basket of ferns of rare character. It is modeled after one illustrated in *The Gardener's Chronicle* last year. It is constructed of wire, from such as is found at the store of any dealer in wire or horticultural goods. The entire interior is filled with moist moss, except the centre, which contains some earth. At the bottom of this earth is a sponge, to prevent dripping (perhaps it would be advisable to substitute a small basin). The basket is filled with Ferns and Smilax. The varieties of Ferns most suitable for culture in hanging baskets are the Maiden-hair Fern (though it spreads pretty widely), *Athyrium*, *Polypodium vulgare*, *Asplenium flaccidum*, *Pteris serrulata*. Such a list is easily supplied by any florist, with many other valuable additions, but we would confine the plants to one class only, viz., Ferns. We know no plant so durable or requiring so little care, and yet able to live in any position (as long as they are watered), like Ferns. We would be justified in naming them the *Window Gardener's Live-for-Ever*.

Shade Trees.

John J. Smith, Esq., one of the former editors of *THE HORTICULTURIST*, in a

recent address before the Horticultural Society at Germantown, Pa., has expressed his views in relation to the proper species of trees for shading our streets, with hints for their management. He protests against the usual method of mutilating this class of trees after they have attained full size, and calls attention to the fruit-tree grower, who begins to prune as soon as the trees are set out and while the limbs are necessarily small. Attention is called to the fact that we cannot judiciously plant fruit or nut-bearing trees along our sidewalks, nor even handsome flowering trees. Then again, we are restricted to those which will flourish in smoky towns, thus debarring the evergreen family. In many instances streets are quite narrow, often only thirty feet wide, so as to afford insufficient space for the larger trees. "As well admire a sick monkey or a dying cat as a plant struggling for life between a curbstone on one side, sand, brick, and rubbish on the other, and the air and rain excluded from all." The Silver Maple is recommended above all others for a popular street tree, provided it receives proper care when young; but "it wants attention every week during the growing season, if we expect good results." Trim when young is our writer's advice, and never allow it to form large limbs to be cut away in after years. He recommends the Sugar Maple highly, and among smaller-sized trees suggests the Red Bud or Judas Tree. Attention is called to the claims of the Magnolias and the Yellow Wood or Virgilia. The Deciduous Cypress, the Weeping Cypress (*Glyptostrobus Sinen-sis*), and the Lindens are all worthy of a place in our list. Some of the oaks, Kentucky Coffee Tree, varieties of Ash, Native Beech, Copper Beech, Fern-leaved Beech, and the Salisburia are all fine. At the East, and especially in portions of the Middle States, the Elm is infested with worms and must be rejected; but the species known as the Slippery Elm appears to be an exception. He says the Norway Maple casts too dense a shade for the street. The Syc-

amore Maple is a more rapid grower than the Silver, and among oaks the Overcup or *Macrocarpa* is the fastest grower of all. In broad avenues, of 80 or 100 feet in width, oaks, hickories, Tulip poplars, and many others may be used. Always select trees that have been twice transplanted, if possible.

New Evergreens.

The following new varieties have been recently introduced by T. C. Maxwell & Co., of Geneva, N. Y., and have decidedly valuable characteristics. (They were omitted, by accident, from January No.)

Victoria (Thuja Occidentalis Argentea.)—A very curious and beautiful dwarf Arbor Vitæ, and wholly unlike any hitherto described. It is of a fresh green color, with the branchlets distinctly tipped with white. It is believed to be entirely hardy, having been exposed as thoroughly as the George Peabody, and with no injury. It is very attractive and pleasing in appearance; has same parentage as *T. O. lutea*.

Maxwell's Dwarf Spruce. (Abies Excelsa Maxwellii.)—A seedling which originated on grounds of T. C. Maxwell & Bros.; leaves short, rigid, dark green. Its habit is very compact, full and regular, and without trimming, its tendency is to form a dense hemispherical mass. The original plant is fifteen years old, and measures twenty-four inches in height and thirty-eight inches in diameter. It is more vigorous than *pygma*, and somewhat larger. For novelty, this little tree is curious and interesting, and as a beautiful, low evergreen, this dark green, regularly rounded dwarf is exceedingly valuable.

Glory of the Spruces. (Abies Alba Aurea.)—Possesses unique beauty of more than ordinary character. In size and habit, it resembles the common American, from which it is a chance seedling; leaves long, curved, of a soft, glaucous green color, and very thickly set upon the branches. A rich golden yellow distinctly marks and adorns the tips of the leaves upon the upper side of each shoot. Nor is this color faint and undecided, but reliable, pronounced and strik-

ing; so that this silvery green and gold foliage at once attracts and fixes attention. Standing in front of a group of darker and larger evergreens, the effect is remarkable.

Eucalyptus Globulus.

The Agricultural Department at Washington has distributed plants of this tree for the purpose of encouraging its culture, more especially in the Southern States.

May Beetles and Rose Chafer—How to Get Rid of Them.

Prof. Cook, of the Michigan Agricultural College, says they can be shaken from the vines quite readily; and if no better way is discovered, collect them in sheets and scald them.

Dr. Le Baron, entomologist, recommends tobacco water and whale oil soap solution.

Pines for the Seaside.

A horticulturist (we cannot credit to proper source) states that he has found no trees that succeed so well by the seaside as *Pinus Insignis* and the Corsican Pine. He has plants of the latter growing and flourishing where the sycamore and beach, twenty years planted, never could even get into respectable bushes. The pines named also have the advantage that hares and rabbits will not touch them, and the wood of the Corsican pine is very valuable, while that of the Austrian, another great tree for the seaside, is worth but little. He has also succeeded in growing the Aleppo Pine (*Pinus Halepensis*) from seeds brought from the Isle of St. Marguerite, opposite Cannes, where this pine grows with its roots down to the salt water, and where it withstands the most terrific sea gales, without seeming a bit the worse for them.

Packing Plants for the Mails.

Prof. Thurber, in discussing the topic of sending plants through the mails, calls attention to the fact that there is greater danger arising from the presence of too much moisture than too little. The best packing material is sphagnum or bog moss, and this should be just so damp only as to be elastic to the

touch. Plants packed in this, if not too damp, will remain for weeks uninjured; that is, if the plants are at rest. Another thing is, to pack close. If sending by mail, take a piece of strong brown paper; lay the just damp, not wet, moss upon it; put the plants upon the moss, and more moss over the plants; then begin at one end of the paper and roll up hard, secure with a string, and then put another paper over for direction. So in packing in boxes; use the moss just damp, and have the box full and crammed down hard, so that there can be no possibility of moving or shaking in transit.

New and Double Geraniums.

The following new varieties are brought out this spring, and are the property of M. Algaire of Mont Plairie, Lyons, France:

Aline Sisley (Jean Sisley)—Dwarf and compact growth; foliage small, zoned, deep green; flowers pure white, double, and of medium size. (Style of the single variety, Mme. Vaucher.) Price, 12 francs.

Alba Plana (Smith)—Flowers double white. Price, 10 francs.

Asa Gray (Jean Sisley)—Dwarf and robust grower, flowers large, double, chamois color, shaded with a lighter tint. This much desired color, approaching to that of the single variety, *Gloire de Corbeny*, created a sensation at the Universal Exhibition at Lyon.

Charles Lyell (Jean Sisley)—Dwarf habit; flowers double, of medium size; deep apricot color, edged white; an admirable variety.

Jeanne Alegatiere (Alegatiere)—Vigorous grower; foliage large, zoned; flowers large, full and well shaped; lilac rose, extra.

Exposition de Lyon (Alegatiere)—Vigorous habit; foliage medium size; flowers full, well shaped; magenta cherry, very brilliant.

A Profitable Family Garden.

Mr. Samuel Modara, of Harrisonville, near Philadelphia, has demonstrated the capacities of a good family garden. From a piece of ground measuring one and one-fourth of an

acre of land after deducting expenses, he realized the value of the following produce: Onions, \$106.98; tomatoes, \$42.12; beans, \$33.55; grapes, \$18.56; blackberries, \$2.70; pears, \$7.00; asparagus, \$10.42; four bushels of onion sets, \$24.00; ten bushels of turnips, \$4.00; carrots, \$2.50; celery, \$3.00—total, \$254.53. The family used also out of the garden during the season, not included in the above.

We should say after such an experiment as that "*Samuel, come up higher.*"

Cranberry Measures.

The New Jersey Cranberry Growers' Association have adopted standard packages for marketing the fruit. The crates are to contain one bushel each, "rounded" measure—the "round" being $3\frac{1}{2}$ quarts more than an even bushel. The standard barrel is to be of just three times the capacity of the crate (three bushels), and is the same as that of the Cape Cod Association. /

Magnitude of the Evergreen Trade.

The tree nurseries of Mr. Robert Douglass, of Waukegan, Ill., and F. K. Phoenix, at Bloomington, Ill., are the finest and largest in the United States.

Mr. Douglass, if he does any growing, puts out by the 10,000,000, while Mr. Phoenix has one block of seventy acres of evergreens, closely planted.

In apple trees, he plants by the farm, one block being no less than 100 acres and another seventy-five acres, both together numbering 3,500,000 trees.

Strawberries—Preferred List for Planting.

William Parry, of New Jersey, who devotes about 100 acres of his farm to small fruits, is said to prefer the following varieties of strawberries, mentioned in the order of their ripening: The New Jersey Scarlet, French, Wilson's Albany, Seth Boyden, Charles Downing, Monarch of the West, Dr. Warder, Black Defiance, Col. Cheney, Late Prolific, Kissena and Kentucky. His shipments during the height of the past season reached nearly 2,500 quarts daily.

Bush Honeysuckles.

The masses of flowers on the Honeysuckle vine may be greatly increased in beauty and their fragrance strengthened by pruning them closely, and training them as round-headed shrubs; at first they might not seem as naturally ornamental as if trained on a trellis, but by the testimony of gardeners they seem to be very much more attractive.

Culture of Fruit in Europe.

In the province of Wurtemberg, Germany, the fruit crop brings, in average seasons, a revenue of \$700,000 annually. The culture of fruit trees is increasing, and there now exists a German Pomological Society—embracing Germany, Austria, Hungary and German Switzerland, who have divided all this territory into fifty-six districts.

Canning Artichokes.

This seems to be a new industry just developing in the South. In New Orleans a factory has been putting up figs and artichokes, and considerable quantities have been sent North. Of the latter, *The Pica-yune* remarks that "the Southern artichoke is a vegetable so little known at the North, that people having never seen it before cared little to purchase it at first; but those who have acquainted their palates with the delicate flavor of the Louisiana artichoke speak loud praises for it, and commend the manner of preservation."

Orchids, Duration of Bloom.

It is stated that, in an exhibition in England not long since, a spike of flower of *Phalenopsis Schilleriana* was shown, which, though still fresh and quite presentable, was expended more than five months previous. This feature of long endurance of bloom is a great recommendation in favor of the culture of orchids.

Preserving Wooden Labels.

The cheapest method and the most durable for all ordinary purposes, is to "*to dip them in crude Petroleum.*"

Eighteen hundred dollars was the florist's bill at a fashionable dinner party in New York.

Garden Topics.

A White Weigela.—The use of ornamental flowering shrubs in our home door-yards is one of the easiest and cheapest means of decoration. Among the largest and best of these shrubs is the *Weigela*, usually growing six feet high and bearing blossoms of a light yellow color. Many florists have wished for a variety with white flowers; yet it has never been prominently brought before the public notice, except in nurserymen's catalogues. We observe the *Germantown Telegraph*, in a recent notice of new shrubs, commends the above specially to the notice of American lovers of flower-gardening.

"It is only once in a while that new ornamental shrubs are introduced that take a strong hold of the popular heart and come into cultivation everywhere. In our time there have been but half a dozen which seem to be so very desirable that we see them everywhere. Most of the best things have been long in culture—long before our day. The double-flowered plum-leaved spiræa is one of these standard plants of the last half century. It has double white button-like flowers, which open before the leaves in spring. Another good thing of this rather modern period is the bridal wreath, or Reeves's spiræa, which, with its gray-green leaves and full clusters of white flowers, is one of those things no one feels like seeing his garden do without. Then we believe came the golden bell, or Forsythia, which makes quite a gay appearance with its yellow blossoms before the leaves come in spring, and is again gay in fall, when its leaves put on a brilliant plum-purple tint. The *Weigela rosea* was another favorite, its rosy thimble-like flowers in May and June making no garden seem complete without it. Soon after this we had another weigela, which also has become rather common, known as the *Weigela amabilis* which, though not so pretty in habit as the *W. rosea*, has the advantage over that of flow-

ering twice a year. This fall, at the exhibition of the Germantown Horticultural Society, one of our florists had in his collection of cut flowers a pure white one of this latter variety, very unlike so many "white" things, which are often a dirty yellow or pale green—a real snow white—which he told us was in the habit of flowering twice a year, as the *Weigela amabilis* does. It is represented to be just as hardy and in every respect just as good as either weigela; and, if this really proves so, we may look for another addition to the very few plants which of all annually introduced may become permanently popular."

The Weeping Larch.—We are glad to see the use of this encouraged for ornamental grounds by so good an authority as *The Garden*. It is considered by that journal one of the most elegant of all our hardy deciduous trees. A mammoth specimen tree is described by a contributor as now living in the Kew gardens, which densely covers a walk ten feet wide for a circuit of 130 feet, its side branches spreading full fifteen feet on each side, down to the ground. It is of so recumbent a form of growth that a very powerful support to the branches is necessary, to allow of sufficient height for walking underneath.

Some few years since a double row of polished oak posts, eight feet high, was erected under it, on each side of the walk, with iron posts just under the stem and main branches, and cross at intervals to support the lateral branches, which have covered the whole structure so effectually that the sun's rays cannot penetrate it. The branches grow perfectly flat on the trellis, requiring no training, and there is not one on the whole tree rising to a greater height than fifteen feet.

Label your Trees and Plants.—Label all your ornamental trees, plants and varieties of fruit. Do it *now*, and do it durably. It will save endless confusion and trouble of reference to a chart. The best as well

as cheapest label, as suggested by a Tribune correspondent is zinc, with copper or brass wire, and the name written with a common lead pencil. I have such now in my orchards, some two years old, that are as legible to-day as when first hung on the trees. All that is necessary when consulting these marks is to merely apply a little moisture to the surface, and the writing becomes at once black, and is readily deciphered. There is some danger in the wires rubbing out the hole in the label. I obviate this partially by punching the hole in the center of the label, which prevents an excess of swaying in the wind. Labels for small fruits or plants must receive two good coats of paint, and then dip them in a pot of hot gas-tar, about as deep as they should go in the soil. When ready for use, apply a thin coat of paint over the side intended to be written upon, and while fresh, with the aid of a rather hard lead pencil, write the name. We thus have a distinguishing mark that will not decay under the soil for at least ten years, and will withstand the action of the weather for very nearly as long. The ordinary wire label attached to trees that have been procured from the nurseries, will in a short time "cut in" through the bark of the trunk or branch to which it is fastened, and thus soon destroy the same; therefore always remove these at once, and replace with the zinc label aforesaid, being careful at the same time to allow plenty of room for the branch to expand before the wire shall clasp it tightly.

Everbearing Raspberries.—Mr. Flagg of the *Prairie Farmer*, says that the only everbearing raspberry he ever saw that proved profitable, is the Ohio Everbearing, heavily manured.

For Hanging Baskets.—Line the basket with moss, with a little soil attached. Place in the center a small pot, containing a showy plant of upright habit; fill up the surrounding space with rich woods and old hot-bed soil; fill in with plants of a climb-

ing or trailing habit; when the center fades you can replace it by a fresh plant. In filling a basket, select plants of a similar nature—such as like shade and moisture—the *Fuschia*, *Lobelia*, *Ivy Geraniums*, *Ivies*, *Linaria*, *Panicum*, *Balms*, gold and silver *Vinca*, *Ferns*. A basket for a hot, sunny situation should be filled with *Coleus* for the center; also, *Petunia* (double), *Sedums*, *Convolvulus minor*, *Nasturtiums*, *Begonia*, *Mignonette*, for trailing. A carnation will make a constant blooming centre—a *Coleus* a brilliant one.—*Am. Farmer*.

A Pure White Abutilon has been introduced into England by Messrs. Standish & Co. of Ascot, from the South of France, and has successfully withstood the winter, growing in the open air. It is described as a "fine, bold-leaved variety, blooming with great profusion, and throwing its chaste, bell-shaped blossoms outside the leaves."

Salt For Strawberries.—D. Stewart, of Upper Alton, Ill., believes in salt. He says:

"I believe in it as a heavy dressing. I find on manuring the ground that I have applied salt to strawberries at the rate of thirteen and a half bushels to the acre. I did this early in the season, to kill the beetles, and the leaves of the strawberries were not injured. The cut-worms were doing great damage to my asparagus beds, eating into the crowns of the plants; and I applied salt at the rate of twenty bushels to the acre. I consider salt as a perfect remedy against many injurious insects, as well as an excellent manure for the land.

Culture and Manure of Asparagus.—The subject of asparagus was brought up for discussion before the Concord (Mass.) Farmer's Club, and Capt. Moore said:

One hundred and fifty years ago some book-maker asserted that asparagus grew naturally on the coast of Spain, in places where the high tides flowed; and inferred from this fact that salt was a specific ferti-

lizer for this plant. From that time to the present the horticultural book makers have copied and handed down this theory. It has even been recommended to apply as much as a bushel of salt to each square rod, to serve as a fertilizer to the asparagus, and at the same time kill the weeds. But some of the weeds will bear this amount of salt as well as the asparagus. A few years ago it occurred to him that the asparagus plants could appropriate but a very small part of this salt; as an experiment put out a bed of a quarter of an acre, without using any salt, and from this bed, treated like the others with the exception of the salt, he has cut his best asparagus, beating even Conover's. Birds have dropped seeds from his beds in the thin soil of the pine woods back of his house, and the plants grow there six feet high, without manure or cultivation. He supposed, by-and-by, some new book-maker might discover these plants, and from them deduce the theory that asparagus grows naturally in the sand of pine barrens. A bunch of "Conover's Colossal Asparagus" (eighteen stems weighing twenty-six ounces) was sent to the Massachusetts Horticultural Exhibition. Capt. Moore, the same day showed twelve stems of his Concord variety that weighed twenty-four ounces. He knows of no reliable variety that can be perpetuated by seed. He prefers a rather dry, sandy soil for this crop. It can be manured at any time. If done in June most likely there will be a heavy crop of weeds, at a time when it will not be convenient or easy to kill them. Would set the plants eight inches deep, for the greater safety of cultivating with the horse, without injury to the crown of the plant. If set shallow it may be cut earlier, but there is no profit in this, as the early cut has to compete in market with that from the South, and the late (say after the 25th of May) always brings the best price, and the earliest cut is often injured by frosts. If we cut early must stop early, so as not to injure the bed. Best to renew bed when fifteen years old, as on young beds the stems are

larger and of better shape. Would change the kind of manure frequently.

Mr. L. had a young bed, a part of which was manured with nitrate of soda only, and that part looks as well as that on which barn manure was used.

Much of the asparagus raised about here the past year was crooked, and Mr. Moore thought it was owing to the prevalence of cold winds.

Mr. F. thinks the occasional crookedness of the shoots is caused by the drying effects of the wind, as the bend is always to the wind. In his experience sandy soil does better than heavy. Has a general impression that salt is beneficial. He used fifteen bushels to the acre.

Wash for Fruit Trees.—The following is a wash used by William Saunders, of the government gardens at Washington: Put half a bushel of lime and four pounds of powdered sulphur in a tight barrel, slacking the lime with hot water, the mouth of the barrel being covered with a cloth; this is reduced to the consistency of ordinary white-wash, and, at the time of application, half an ounce of carbolic acid is added to each gallon of liquid. Mr. Saunders says: "I generally apply it in the spring, before the leaves make their appearance, but I am convinced that it would be more effective if applied later; but then it is difficult to do so when the tree is in foliage." Mr. Saunders applies the wash, not only to the stem of the tree, but, to some extent, to the main branches.—*N. E. Homestead.*

Keeping Winter Pears.—A writer in the *Agriculturist* adopts this mode of keeping winter pears: Winter Nelis and Vicar of Winkfield pears are barreled as late in autumn as will be safe from frost, headed up tight, and placed on the north side of a building until there is danger of freezing, when they are removed to the cellar, which is kept by the thermometer at a temperature at from 35° to 40°. They remain hard till the middle of January, and may be ripened any time by bringing them into a warm

room. We keep ours in the cellar, packed in shallow boxes, with close lids, the fruit room being separated from the other cellar apartments by brick walls, and the bottom and sides cemented with water lime, which keeps the room dry, and admits of keeping it clean. The ventilating windows are opened during cold nights, and closed when the weather is warmer.

Profits of Fruit Culture.—In conversation a few days since, a gentleman stated that Mr. Walbridge, of Baraboo, for the past ten years, has realized an average of \$100 per year from eight apple trees of the variety now known by his name, and which promises to be a very valuable acquisition to our long keeping varieties. Another gentleman jestingly said this furnished a good basis for a calculation as to profits, and proceeded to compute the enormous profits which the farmers of Wisconsin might secure, if each had 160 acres set with trees each yielding as large a profit as these. Absurd as this seems, it is no more so than many calculations which are made by writers, who take a single case of large profits, and from that proceed to apply the same rate to the whole field.—*Western Farmer.*

Medical Value of Asparagus.—A medical correspondent of an English journal says that the advantages of asparagus are not sufficiently estimated by those who suffer with rheumatism and gout. Slight cases of rheumatism are cured in a few days by feeding on this delicious esculent, and more chronic cases are much relieved, especially if the patient avoids all acids, whether in food or beverage. The Jerusalem artichoke has also a similar effect in relieving rheumatism. The heads may be eaten in the usual way, but tea made from the leaves of the stalk, and drank three or four times a day, is a certain remedy, though not equally agreeable.

Grape Trellis.—A correspondent of the *Fruit Recorder* makes a wire trellis, with a contrivance for compensating for the expan-

sion and contraction from changes of the weather, by simply attaching a spiral spring to the wires, which requires no attention or adjusting, but always regulates itself. We do not see why this spiral spring may not be made of the trellis wire, the only care required being to make the coils short enough to give them stiffness, and sufficiently numerous to allow considerable expansion or stretching.

Flowers from Seed.—A writer in the *Rural New-Yorker* obtains the best and earliest plants from the seed accidentally scattered on the ground from the plants of the previous year's growth, taking care not to disturb the surface in spring till these plants are removed. He obtains a good supply of geraniums from his beds of the previous year, and in one instance had a geranium flower in four months from seed. He also obtains, in the same way, an abundant supply of petunias, mignonette, candytuft, Dianthus, Delphiniums, pansies, etc. We have been successful with some of these in the same way. This suggests the advantage of autumn sowing hearty flower seeds, with, perhaps, some protection.

Training Petunias.—A writer in the *London Garden* says that a fine effect is obtained by this method of training petunias. He procures a number of hazel rods, each about two feet long, bends them like hoops, and drives both ends into the bed, placing them at suitable intervals all over it. On these he ties and trims his petunias, which blossom more abundantly than usual under this treatment. Petunias have been successfully treated as if sweet pea vines, and trained on a slanting trellis. The trailing habit of this plant, especially late in the season, is not always sufficiently considered.

Pear Blight.—The *Rural Messenger* says a correspondent checked pear blight by digging down to roots of his trees and throwing a quantity of scrap iron, and covering all over.

Floral Notes.

The Ivy for In-door Decoration.—We do not know a single vine so suitable for growing in the ordinary air of living-rooms and will stand so much hard usage as the Ivy. The only point on which cultivators err by neglect is the failure to keep its leaves well washed and clean. If this is done two or three times a week, and the soil watered as often, it will grow for weeks, and even years, without danger from change of temperature. Josiah Hoopes also recommends in *The Tribune* this vine, in answer to the inquiry of a lady who wanted something not too troublesome nor too tender. He says:

Ivy will succeed better in our dry, warm rooms than almost any plant with which I am acquainted, and all that is needed to make it attractive is the exercise of a little ingenuity in the appliances for its home. A vase, not necessarily costly by any means, will answer a good purpose; and this reminds me of an excellent idea I lately noticed in a foreign periodical for growing this very plant. Long shoots of the Ivy were procured, with the young and tender aerial roots very abundant; the lower ends were wrapped in moss, and then some five or six of these were tightly tied together at the bottom and placed in the vase; fill the vase within a few inches of the top, and suspend the ball of moss therein. The roots will soon commence to grow, and afterward the moss should not quite reach the water, as the roots will extend down into it, and prove all-sufficient. So many very beautiful varieties of *Ivy* are now in cultivation that, by selecting kinds that will form a decided contrast in shape and color, the effect will be sensibly heightened. The center of the vase may be filled with cut flowers, or grass, or, indeed, nothing would look better than ferns. The Ivy may be allowed to hang down over the sides of the vase in graceful festoons, or else trained over and around the window, thus making a room appear cheerful and pleasant all winter long. It is not

necessary, and, in fact, I do not believe it will grow as well in the strong light as when in a partially shaded position, as the Ivy loves shade, and an even, cool atmosphere. I have known instances where Ivy has been grown in large tubs, and trained up a stairway, thus forming a mass of green foliage from the hall below to the floor above. Used in any way, as fancy directs, it is unexcelled as a house plant.

Roses.—The rose is not a new beauty. It was cultivated, and loved, and sung by the poets, centuries ago; but it has been improved by crossing, as have the most of our flowers, fruits and vegetables. The rose likes a virgin soil, and the nearer the composition of our rose-beds approximates to that, the greater will our success be likely to be. Hence, decayed sods and leaf-mould from the woods, when it has been sweetened by the sun, are good fertilizers.

The old-fashioned way of scattering roses about the lawn is not the best way. Their culture, thus isolated, is apt to be neglected, and grass work in and choke them; besides the effect is not equal to where they are grouped in a round or oblong bed, highest in the centre.

Suppose that we decide to plant a bed of Hybrid Perpetuals. In the center we would want a white rose or a cluster of white roses, according to the size of the bed. Madame Alfred de Rougemont is one of the finest whites; Portland Blanche is another fine one. Next we can have a row of flesh color and pink. Caroline de Sansal is one of the finest of the former, and Sydonie of the latter; Auguste Mie—rosy pink—would pretty nearly correspond with this shade. The next row should be still deeper—rose or deep rose. Of this shade, we have Barronne Prevost, Victor Verdier and Madam Victor Verdier. In the next row we could have rosy crimson, rosy lilac, rosy carmine and vermilion. Among those of these shades, Anne de Diesbach, General Washington, John Hopper, La Reine, Mad. Fremion, Maurice Bernardin and William Griffith

rank the highest. On the outside we could have the deepest shades—as deep red, crimson and velvety. Doctor Arnol, Francoise Arago, Giant of Battles, General Jacqueminot, Jules Margottin, Pius the Ninth, Prince Camille de Rohan and Triomphe de l'Exposition would fill the outer ring.

We do not say that this order should be strictly adhered to, but we think the highest effect would be produced by having white in the centre, and gradually shading deeper to the circumference. All that we have named are first-class roses, and our readers may be assured that in selecting from them they will get no inferior rose.—*Rural Home*.

A Few Fine Climbing Shrubs.—The list of climbing and trailing shrubs grown in our nurseries has become quite large, and many of them are indeed very beautiful. Outside doors should be covered with porticoes or piazzas, over which vines may be trained, and rustic arbors and supports may be made, to be covered with them. Screens should be erected before outhouses and unsightly places, and covered with some kind of vines, either shrubby or annual. In such ways a number of climbers can be employed around our dwellings, without taking up much room.

Ampelopsis quinquefolia—American Ivy, Virginia Creeper.—Is desirable on account of its hardiness and its rapid growth—its deep green foliage changing into a rich crimson in autumn—rather than for its flowers, which are inconspicuous.

Bignonia Radicans.—A hardy, rapid growing climber, with large, trumpet-shaped, scarlet flowers in August.

Clematis or Virgin's Bower—Large Azure Flowered.—Very large and showy azure blue flower.

Clematis Jackmanii.—Large, intense violet purple.

Clematis Rubro Violacea.—Maroon, shaded reddish violet.

Honeysuckle Halliana.—An evergreen variety, flowers pure white, changing to yellow; very fragrant; is covered with flowers from June to November.

Wistaria Chinensis.—One of the most rapid growing of climbers; has long, pendulous clusters of pale blue flowers in spring and autumn.—*Rural Home*.

Hybridizing Geraniums.—In answer to a correspondent, the *Cottage Gardener* says: "There is but one way of effecting the hybridization of plants, and that is to apply the pollen of one species to the stigma of another. Most of the present race of geraniums are not hybrids, but cross breeds. You will need to remove the stamens of the flower you wish to operate on before the pollen is ripe, and envelop the flowers in a gauze bag, both before and after the pollen of the other has been applied to one or all of the horn-like stigmas. When the seed vessels enlarge, you may remove the bag.

Pond Lilies Easily Cultivated.—Phineas Field, of East Claremont, writes to *The New England Farmer* as follows: "If you admire pond lilies (and who does not?) and have a springy place in your meadow, by digging a hole so that the water will stand from six to twenty inches deep in the same, and by setting roots in the bottom, you may have a supply of fresh ones through the season of blooming. Old roots will blossom the first season. One half day's digging, four years ago, has supplied me abundantly, and now I have hundreds of young roots." The best time to apply the pollen is in the early part of the day, and the plants seed more freely when they are kept rather dry, so as not to be gross, a dry, well ventilated atmosphere being necessary."

Remedy for Cabbage Fly on Sweet Alyssum.—Those who are troubled with this pest will welcome the following from the *Gardener's Monthly*: "In the class of scented flowers, the Heliotrope, the Mignonne and the Sweet Alyssum command a prominent place. The last is liable to suffer much from the cabbage-fly. A syringing with water, in which a few drops of coal oil

has been spread, soon settles his business. There is a variegated Sweet Alyssum, which is very pretty."

Flowers in Masses.—For growing in beds, in masses, we consider such kinds as aster, candytuft, dianthus, pansy, petunia, phlox, portulaca and verbenas most effective, and these, with exception of aster, are procumbent—that is, their branches, instead of growing upright, are inclined to fall down and trail on the ground. In order to have these show to the very best advantage, the beds should be made with convex surfaces, considerably higher in the center than at the border. With the aster, the most striking effects are produced by planting the border with the dwarf varieties, as Dwarf Pyramidal Bouquet, or Dwarf Pyramidal Bouquet Blood Red, growing about ten inches in height; inside of these, New Schiller, or New Chrysanthemum-flowered Dwarf, from twelve to fifteen inches; then Imbriqué Pompon, eighteen inches; Truffant's Pæony-flowered, twenty to twenty-four inches, and in the center, New Rose, two feet. Sweet Alyssum and Rocket Candytuft, both low growing, pure white, make good borders for beds of deeper colors. We would not confine the latter to borders, but had we sufficient space, would raise large masses of it. Nature and art, co-operating, can produce few things more beautiful than a bed of the choicest Phloxes, or Petunias, or Portulacas. — *American Rural Home.*

Pruning Roses.—Roses, to produce large and perfect flowers, must be pruned severely every year; hence, the advice given applies to roses of any age, provided that they have been cut back before. Old plants, having been allowed their full development, must, however, not be cut back as much as plants that have had an annual shortening in since the beginning, as the cutting back must take place upon wood of the previous year's growth. Old bushes must be dealt with more sparingly, the

superabundance of old wood reduced, and the young shoots shortened in. Running roses must be pruned upon the spur system, leaving the main branches untouched, but reducing the laterals to two or three eyes each. Spring blooming Moss Roses should not be pruned back too much in winter; they are best trimmed after the flowers have passed in summer. Tea and China Roses, from their peculiar habit, may be pruned less than Hybrids, a class which will seldom give flowers showing their full perfection, unless the wood is annually renewed. This severe annual pruning will, however, exhaust the plant after six or eight years, but, in compensation in thus shortening their existence, a much more perfect blooming is secured than could be expected if plants are left unpruned.—*Ex.*

Fumigation for Plants.—Mr. J. C. Niven, of the Hull Botanical Garden, recommends tobacco fumigation (in *London Garden*) for cleaning green flies from certain house plants infested by them. His plan is to lay the plant on its side in a wash-tub, throw over it a damp towel, or better, "a bit of glazed calico lining," and then, through an opening at the bottom, have "your husband" insert the end of a pipe, and through it let him blow tobacco smoke until the plant gets a good fumigation. The flies will be found at the bottom of the tub when the operation is finished. The plants should be perfectly dry when the operation is performed, but, if a towel is used, it should be freshly washed and wrung out before using, and be without holes. The pipe-stem should reach to the bottom of the tub.

Vitality of Cuttings.—*The Garden*, of London, records an experience going to show that scions and cuttings retain their vitality much longer than has been generally supposed; those of vines, plums, figs, apples and pears, taken from England to the colony at Victoria, having been worked with success nine months after being severed from the parent stock.

Editorial Notices.

Value of the Horticulturist.

I have taken THE HORTICULTURIST from its very start, to the present time, with the exception of one or two years, and must say that I like it now best of all its history. It is timely, *practical*, and just what we fruit-growers want. M. L. BURRELL.

The Horticulturist.

There are a few journals which no fruit-grower or owner of a garden can afford to dispense with, and we unhesitatingly pronounce THE HORTICULTURIST one of them. Even the resident of the crowded city will find its visit to his centre table the harbinger of many a ray of sunshine warming his heart toward the beautiful in nature.—*Eclectic Ruralist*.

I have a visitor to my sanctum who picks out THE HORTICULTURIST in preference to any other of my numerous Agricultural and Horticultural exchanges, and devours every inch of its reading. I think it the best in the United States.

GEORGE E. BLAKESLEE,
Publisher Ohio Farmer.

Results of Advertising.

We advertised extensively the past year, and in summing up the results, found that THE HORTICULTURIST paid us better than either the *Agriculturist*, *Rural New Yorker*, or *Country Gentleman*.

The *Ladies' Floral Cabinet* also brought us better results than any agricultural or religious paper in the United States, of 100,000 circulation, or under—*only one journal*, 120,000, being superior.

We consider it a very cheap medium for results in proportion to price charged. And now, in the spring of 1874, it is *leading all competition*.

MANEY & HUDSON, Florists,
Chestertown, Md.

Errata.

Upon page 30, January No., read *Masdevallia*, instead of *Mandevallia*.

Wanted.

The address of every person, having a greenhouse or conservatory, in the United States; also, the name of every gardener and florist.

Will our friends, or readers, send us lists of any names of their acquaintance. We wish to send a specimen copy of THE HORTICULTURIST to all such.

Busy Times.

From December 1 to January 31, over 15,000 letters were received from the United States mails at our office; our correspondents must be charitable, under such circumstances, and allow us plenty of time for replies. The flood still continues.

The Ladies' Floral Cabinet.

This new household journal, started by the publisher of THE HORTICULTURIST, to fill the field for a popular ladies' floral and home journal, has now reached a permanent circulation of nearly 30,000. Its January No. enjoyed an issue of 48,000 copies, to meet the demand for specimens, and also to fill orders from regular subscribers. While most journals have suffered from the effects of the "panic," the CABINET is *doubling* its subscriptions this year over last.

To New Readers.

This number of THE HORTICULTURIST reaches over 5,000 new readers, who have never taken it before this year. We trust their interest in it will continue, and we may have the pleasure of many contributions, subscriptions, etc., from them in the future.

Sickness of Western Editor.

The serious illness of Mark Miller, our Western editor, has prevented sending copy for his department this month. We trust he will be restored to health, and usual duties, before long.



SCENE IN WEST LAUREL HILL CEMETERY, PHILADELPHIA, PA.

T.B. SCHILL



THE
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Garden Gossip.

Planting for Autumn Foliage—In the excellent report on ornamental planting, read by Geo. Ellwanger before the Western New York Horticultural Society, we notice that he alludes to the subject with not only great force, but eloquence.

A home is hardly a home, despite the many attractions that may be within, unless something without, with its cheering presence, serves to add to its attractiveness as well. From the rose bush or flowering shrub, distilling incense from each opening bud; the Virgin's Bower or ivy vine, that weave their intricate network around the porch, to the shade tree that offers its leafy umbrage to the passer-by, or the evergreen that, even in winter, suggests warmth and bids defiance to the chilling blast.

Trees are without, what pictures and works of art are within. They clothe nakedness; they relieve the eye; they are a never-ceasing well-spring of pleasure that but en-

dears itself as age sets his footprint on the decaying branch and withering bough.

Who, in the recollections of his early home, were he fortunate enough to have passed his younger days surrounded by sylvan charms, has them not impressed upon him all the more vividly from the associations that old trees carry with them? Apart from the infinite variety of form, size, and shape assumed by trees, their variance is none the less striking in their manner of fruitage, their dissimilarity in habit, and their diversity in gorgeous color and tints of foliage.

Nor must we forget the exquisite apparel that clothes our trees in autumn. Their annual tribute to the passing year, as well as the effect produced by the different colored berries and bark of many of our trees and shrubs in the winter, such as the *Prinus* (the flamingo of the swamps), the *viburnum oxycoccus*, the family of the *eunonymus*; the different varieties of the *berberry*; the coral-colored berries of the mountain ashes; amber-hued ring of the golden willow; the lustrous red bark of the dog-wood; and the silvery sheen of the birch,

Effects of Grouping.—Mr. Ellwanger also calls attention to some most excellent effects that may be produced by a proper assortment, either planted singly or in groups, of those varieties which present so great a diversity in the color of their foliage or flowers, with, for instance, a bed of Magnolias (the light flowering Chinese), or the Scarlet Japan quince in the foreground. What an array of color can be formed with a background of Forsythias in their yellow dress, or a group of Judas trees in the full glory of their pink habiliments.

And a little later in the season what contrasts can be made by a proper placing of the different colored hawthorns, the Philadelphia, the Magnolia Soulangiana, the many colored lilacs, and the hosts of other flowering shrubs.

Then the white-leaved linden, the *virgilia lutea*, the birches, the *chionanthus virginica*, the snowball, and the many other light barked and white foliaged or white flowering trees adapt themselves wonderfully in contrasting with and heightening the effect of the numerous red flowering and darker foliaged trees.

Winter Ornament.—The possible effect of trees in winter possessing some characteristics of ornamental value, also is alluded to, by Mr. Ellwanger. In winter, if we would have an eye to the picturesque in color, we must call into requisition the well-filled category of deciduous trees and shrubs, that distinguish themselves for the heightened color of their bark or the brightness of their berries; or, what is still more beautiful, when frosts and snows surround us the varied and numerous brilliantly-foliaged evergreens, which retain their tints when everything else in nature has shed its leaves or has become browned and seared by the colder temperature.

The yew elegantissima, the varieties of the new golden arbor vitae, such as the *Semper Aurea*, Peabody, &c., &c.; the different varieties of the silver-foliaged evergreens, like the *Juniperus Venusta* and

Virginica Glauea, with the darker foliaged Conifers interspersed here and there to form the contrast, can be made, if placed with an artistic eye, to shed sunshine on the wintry landscape, and envelope it with a mantle of cheerfulness and warmth.

New Plants and Seeds of 1874.—A large proportion of the new seeds and plants usually introduced each spring season are never heard of the next year, hence novelties have been very generally "discounted" for several years past. Still there are some gems in their way which quietly make their mark, and suddenly the public wonders why they have never heard of them before—objects of genuine merit will rarely fail of success and popularity. We have taken pains to ascertain what, among the novelties of 1873 and 1874, introduced in the United States, may be considered, from reliable authority, worthy of general favor, and herewith present a detailed list, with descriptions:

Aquilegia Chrysantha, or *Golden Spurred Columbine*.—This Columbine was discovered in the southern part of the Rocky Mountains some twenty years ago, but it has only recently come into cultivation. At first it was considered a variety of *A. carulea*, which was then known as *A. leptocera*, and has been sparingly cultivated in England as *A. leptocera aurea*. It has recently been cultivated at the Botanic Garden, at Cambridge, and Dr. Gray being convinced that it is a distinct species, has described it as *A. chrysantha*. It is a very vigorous species, forming a bushy plant four feet high, and bears an abundance of flowers which are similar in shape to those of *A. carulea*, but of a clear yellow color, with the petals rather darker than the sepals. Unlike most other species of Columbine it keeps producing its flowers all summer, and the plant stands summer's heat and winter's cold perfectly; conceded by all who have seen it to be one of the finest plants of recent introduction. It is a perennial easily raised from seed.

A New Aster, Washington.—White and peach blossom. This variety is said to be a great improvement upon any variety before offered, and without exception the finest in cultivation. In the white variety the color is unusually pure; that of the peach blossom is of a very delicate tint.

Amaranthus Thorleyensis.—Believed to be a hybrid between the well-known "Fountain Plant," (*A. Salicifolius*), and "Joseph's Coat," (*A. Tricolor*), having the fountain-like habit of the former, as shown by the cut, with the brilliant, yellow, scarlet and crimson marking of the latter. It originated in the grounds of T. W. Thorley, Esq., Jersey City Heights, during the summer of 1873.

Phlox Drummondii grandiflora.—By means of a careful selection, a class of *P. Drummondii* has been obtained, remarkable for the unusual size of the flowers, which are similar in form to those of the perennial sorts, and rendered very striking by a large center and a fine dark violet eye.

Cineraria, new double-flowering.—This is unquestionably the finest novelty in the way of florist flowers for the greenhouse that has been sent out for many years; they represent all the modifications of color usually found among Cinerarias, namely, crimsons and magentas in various shades, purples both light and dark, as well as flowers tipped with different tints of scarlet and magenta, and perfectly double; habit very good; will prove a most desirable acquisition.

Cobaea scandens alba.—A new and white-flowering variety of this beautiful climbing plant.

Begonia tuberous-rooted.—New hybrids of *Boliviensis*, *Sedeni*, *Chelsoni* and others mixed. These splendid varieties produce branching and at the same time tufted plants from twelve to eighteen inches high, covered the whole summer, until frost sets in, with bright and elegant flowers, succeeding as well in the shade as in the sun. Its utility for bedding cannot be over-estimated. Masses on a lawn present a gorgeous aspect and elicit general admiration.

Hybrid Perpetual Rose, "Firebrand."—Of the style of Giant of the Battles; color, scarlet-erimson, double, symmetrical in form, fragrant, and entirely hardy. Considered by the raiser, William Paul, to be the finest rose of its class.

New Plants.—Although a few of the plants named in the following list were introduced last year, yet the experience of a year is sufficient to warrant new and more enthusiastic recommendations. The first five are introduced for the first time this year:

Pelargonium Aline Sisley.—New, double white Geranium, of very dwarf, compact, free-flowering habit, flowers pure white, and foliage very handsome. Of the double white Geraniums which have appeared this season, this is one of the best.

Mesembryanthemum Cordifolium variegatum.—A new bedding plant of exquisite beauty, and very dwarf trailing habit. The leaves are a delicate green, broadly margined with purest white, and are of a succulent nature. This plant will endure the hottest sun and dryest weather.

Pelargonium Master Christine.—The finest Pink Geranium ever offered; in habit the plant is dwarf and compact, very large trusses of the richest pink flowers, valuable alike for the flower garden in summer or the decoration of the conservatory or parlor window in the winter.

New Winter-Flowering Carnation, "Maimie."—A test of two seasons shows this to be the best white Winter-flowering Carnation cultivated. Its habit is neat and compact, attaining only from twelve to fifteen inches in height when in bloom. The flowers are of the purest white, borne in great profusion.

Hydrangea Otaksa.—The *H. Otaksa* promises much popularity for the future, when known. It attains a height from three to four feet, and is commendable for its ornamental qualities. Gorgeous and magnificent foliage of a nearly orbicular form and thick texture, the branches spreading

horizontally, are well sustained and vigorous. Enormous trusses of large rose-colored flowers when grown indoors, and of a blue shade outdoors. Its splendid flowers remain fresh for months.

Pelargonium Marie Lemoine.—The finest Double Pink Geranium in cultivation; valuable for winter flowering.

New Hybrid Bourbon Rose, "Peerless."—Flowers in immense clusters of rich crimson; double, of fine form, and very fragrant; quite hardy in this latitude.

White Tea Rose, "Bella."—Considered to be one of the best white tea-scented roses in cultivation. It is entirely free from mildew, and is exceedingly valuable for what is so much wanted—white rosebuds during the summer and winter months.

New Sweet-Scented Violet, "Marie Louise."—The only thing valuable in "New Violets" we have yet had; in color it is much darker than the well-known Neapolitan Violet, double its size, equally fragrant, and, in its prolific flowering, will in a year or two rival, if not entirely supplant, the old Neapolitan. A few of them offered the bouquet makers this winter have been much admired.

New Climbing Monthly Rose, "James Sprunt."—This will prove a valuable acquisition as a pillar rose for greenhouses at the North, and for out-of-door culture South, as it will no doubt prove entirely hardy in most situations south of Baltimore. It grows to the height of six to ten feet in one season, blooming monthly. The bud is of a rich dark crimson, getting somewhat lighter when expanded. Tea fragrance. It is probably a "sport" from the well-known monthly crimson rose Agrippina; but its quick, vigorous growth makes it valuable as a climber. It was raised by Mr. James Sprunt, of Keenansville, N.C., the same gentleman to whom we are indebted for the far-famed yellow tea rose "Isabella Sprunt."

New Double Tuberosc, "The Pearl."—Although first introduced in 1872, it is yet not generally known; is a new and entirely

distinct form of the old Double Tuberosc. Its chief characteristics are its short robust stem and great size of flowers, the latter being as freely produced as in the common sort, while they are quite double the size; young roots of this variety flower much sooner than the old sort.

Iris Iberica.—This is one of the most remarkable and interesting plants that has ever been introduced into cultivation. Its dwarf habit, gigantic flowers, great snow-white erect sepals, its equally large strangely-colored petals, and its stigmas with shining black-purple humped bases (the latter organs resembling some monstrous insect), make up a flower of singular oddity, and such remarkable beauty that few can form any possible idea of this wonderful plant. The plant grows from five to six inches high, having large solitary flowers from three to five inches long; the outer segments of the flower are erect and of a snow-white color, with a few red spots towards the base, on the inner surface. The inner segments are of a yellowish-green, covered with wrinkled dark, shining purple, reticulate bands; the disc is a glossy black purple, and the stigmas are of a dull yellow color, mottled with reddish-brown. Such a curious combination of color is rarely seen in the same plant, and this will be eagerly sought after by all those who appreciate beautiful and interesting flowers, more especially as the subject of these remarks must be considered a floral wonder.

New Coleus, "The Shah."—Leaves are rich cinnamon, marked to half their depth with golden yellow.

New Pink, "Lady Blanche."—Pure white, double, fine form, clove fragrance, prolific bloomer; much larger and finer formed flowers than the old well-known white fringed Pink.

Salvia Splendens Alba.—A white variety of the Scarlet Sage, of similar habit in growth, but rather dwarfer in stature; shows finely in rows as a contrast to the scarlet variety.

Fuchsia, Sunset.—A new variety with novel variegations on its leaves. The colors resemble, somewhat, the *Geranium Mrs. Pollock*. Flowers violet and crimson. A strong and vigorous grower.

Zonale Geranium, Jean Sisley.—Not a very new variety, but after trial seems pronounced the finest variety of its class in cultivation. Dwarf habit, forming large trusses of flowers of the most brilliant scarlet, with distinct white eye, or center. Out of 100 varieties, grown by Peter Henderson, this is considered *unequaled*.

New Silver-leaved Geranium, "Avalanche".—A vigorous grower, pure white flowers, leaves broadly marked with white; valuable mainly as an edging or border plant, where a line of white is desired.

New Coleus Nellie Grant.—Same color as the *Queen Victoria*, but with a much broader band of golden-yellow and center of richest crimson, a very distinct and attractive variety.

New Roses.—The following are new varieties of 1874. Mostly originated in grounds of E. Verdier, and but just imported in this country.

Henry Bennett (Levet), *tea scented*, flowers of medium size, full, very fragrant, of a bright clear rose color, the center deep sulphur-yellow; vigorous, seedling of *Noisette Ophirie*.

Madame Francoise Janin (Levet), *tea scented*, flowers fine orange-yellow, sometimes copper in center, medium size, full, and well formed, free bloomer, very sweet, growth vigorous, seedling of *Vicomtesse de Cazes*.

Madame Jutte (Levet), *tea scented*, flowers beautiful pomegranate yellow, a new color, full and fine form and very sweet; growth vigorous, seedling of *Noisette Ophirie*.

Madame Marius Cote (Guillot fils), *Hyb. Perb.*, flower clear red passing to deep rose, cup shaded, very large, full and well formed; growth very vigorous.

Madame Prud'homme (Moreau Robert), *Hyb. Perb.*, flowers bright cherry-red, center fiery-red, very large, full, fine form; growth very vigorous; seedling from *Baronne Provost*.

Madame Soubeyron (Gonod), *Hyb. Perp.*, flowers small, very fragrant, of a bright rose-red color; *unique* of its class, growth vigorous.

Mademoiselle Marie Arnaud (Levet), *tea scented*, flower fine canary-yellow, changing to white, large, full and fine form, good bloomer, very sweet; growth vigorous.

Miller-Hayes (E. Verdier fils aine), *Hyb. Perp.*, flowers large, full and fine, cup shape, thick petals, color crimson with bright center and shaded dazzling velvety-red; erect reddish shoots, short spines, very vigorous in growth, a first class rose, seedling of *Charles Lefebvre*.

Perle De Lyon (Ducher), *tea scented*, flowers deep yellow sometimes apricot, large, full and of fine form; growth vigorous; extra fine variety.

Triomphe De Toulouse (Brassac), *Hyb. Perp.*, flowers large, full and well formed, of a deep velvety-red wine color, passing into blush; coloring very *unique*, vigorous in growth.

Unique Jaune (Moreau Robert), *Noisette*, flowers coppery reddish-yellow, shaded with vermilion, color *unique*, flowers medium size, full, and blooming in clusters, growth very vigorous, a seedling of *Noisette Ophirie*.

Vallee De Chamounix (Ducher), *tea scented*, flowers medium in size, full, center copper color, reverse of petals yellowish-white; very pretty; fine; vigorous grower.

Sulphur for Fruit Trees.—The use of sulphur around fruit trees has always seemed beneficial. It is recommended now as one of the remedies for the *Phylloxera*—and a fruit grower lately tried the experiment of applying it as a fertilizer. He made a mixture of lime, salt and sulphur, applied it directly to his peach trees with a surprisingly good effect.

The Pleasure Ground.

Herbaceous Plants.

WE have no greater proof of the increasing love for flowers, than is afforded by the general inclination to once more pay especial attention to the class of plants above named. Fashion, with her unyielding demands, has for several years past insisted upon geometrical beds of variegated flowers and highly-colored foliage arranged in stripes and masses, so formal in their character that for a while it seemed as if we were drifting back to the old days of "Topiary work" and Italian gardens.

The traveler in Europe is at once struck with the prevalence of what is there termed the *Alpine Gardens*, in all the first class places, and he wonders why they are not better known at home. Americans, as a general rule, are slow to adopt innovations of this kind, and especially after having become so interested in the present formal system of arranging their parterres; but thanks to the few pioneers in floriculture, who are always ready and willing to take the lead in every good work, herbaceous plants will soon be as eagerly sought after, and as justly prized, as their merits deserve. We enumerate their claims as follows: They are hardy; they form a succession of bloom from the snows of early spring to those of early winter; every possible shade and tint of color is represented; in their growth and habit there is such a wide field to select from that we can produce any desired effect; and they are readily and rapidly reproduced.

In accordance with their choice of location, gardeners have classified them into three divisions, and the several apartments devoted to their culture are known under the following titles: First, the *Bog Garden*, for growing aquatic plants, or those preferring a moist situation; secondly, the *Alpine Garden*, composed of stones and gravelly soil, for plants that are natives of rocky

eminences and high mountain elevations; and thirdly, the *Common Herbaceous Garden*, embracing all plants that succeed well in ordinary garden soil.

All of these divisions may be gathered into one enclosure, and the effect will be visibly heightened by so doing.

If water can be introduced by a concealed pipe into a mass of rockwork, the owner can then cultivate ferns and other moisture-loving plants, by having a small jet or jets of water to rise from the summit and sprinkle the surface for some distance around. Or the water may be allowed to bubble up out of some fissure, and then slowly run along between and over the rocks, forming a miniature rivulet, and occasionally a tiny cascade, until it reaches the base, where it may spread around for some distance to form the *Bog Garden*.

This does not necessitate a very great outlay of money, unless the work should be on an extensive scale. Anyone with a little ingenuity can construct a small garden such as we have described, simple in its appointments, yet always neat and natural in appearance. Our own woods and swamps will furnish us with a complete outfit of plants, and if means are at our command to indulge in a few foreigners, these can be added from time to time, as taste may dictate.

In removing our wild flowers we must invariably study the requirements of their nature, and endeavor to supply these in their new home. It will not do to remove delicate ferns nor choice little plants from the north side of a thicket out into the blazing sun of our gardens. Rather select a shady spot and obtain a portion of rich leaf-mould in which to plant them, and the novice will be surprised to find how readily and kindly they will take to their new quarters.

The little aquatic garden may be adorned with the gay Cardinal Flower (*Lobelia cardinalis*) and Blue Lobelia (*L. syphilitica*); the Arrow Head (*Sagittaria*), Pickerel Weed (*Pontederia*), Water-Chinquepen (*Nelumbium*), Water Lily (*Nymphaea*), Yellow Pond-Lily (*Nuphar*), Lizard's Tail (*Sauru-*

rus), Marsh Marygold (*Caltha*), Side-Saddle Flower (*Sarracenia*), Sun Dew (*Drosera*), Native Phlox, Lilies, Iris, &c.

For the Alpine department, we may select the numerous dwarf plants found mostly on rocky declivities, such as the Mountain Pink (*Phlox subulata*), Talinum, Mouse-ear Chickweed (*Cerastium*), Early Saxifrage, Rock cress, Arrow-leaved Violet, Birds-foot Violet, Sedums, Sempervivums, Wild Columbines, Ferns, etc.

For the general Herbaceous Grounds we have such a multitude of handsome plants, that it is difficult to make a selection of the best. In looking over a late catalogue issued by a prominent English florist, we have counted over 3,000 names of species and varieties, independent of the so-called "Florist Flowers"—such as Chrysanthemums, Phloxes, Larkspurs, etc. A very good selection may be made from the following list, all of which will prove satisfactory to the lover of flowers. Double flowering and Red-flowered Milfoils, Monks-hoods, Anemones, Columbines, Milk-weeds, Asters, Campanulas, Lily of the Valley, Larkspurs, Pinks, Dicentras, Fraxinella, American Cowslip, Day Lilies, Iris or Flags, Blazing Stars, Lychnis, Pæonies, Poppies, Penstemons, Phloxes, Jacob's Ladder, Primroses, Double Crowfoots, Chrysanthemums, Salvias, Catch Flies, Meadow Sweets, Violets, Variegated Thymes, Spiderworts, Tricyrtis, Veronica, and a host of hardy bulbs. Indeed their names are legion, and we cannot go far wrong in any thing we introduce, provided it shall not prove to be a pernicious weed.

In our little botanic garden, we must not forget to form a sand-bed for such plants as prefer this dry soil; and here we may cultivate the various hardy Cactuses, the delicate little *Pyxidantha*, from the sandy pine barrens of New Jersey, the Turkey Beard from the same localities; and if mixed with a portion of peat, and partially shaded, we may test many of our beautiful native orchids.

Our own woods, roadsides and pastures furnish a sufficient variety to stock a small

garden, if we would but take the pains to carefully remove them. Of the cultivated plants, all may be increased by division early in the autumn; or by seeds sown as soon as ripe. If the latter are kept until spring, a frame of boards should be prepared, and covered with a glass hot-bed sash. The soil must be made very fine and sandy; and the seeds sown thinly on the surface; the covering to be applied by shaking a little soil through a sieve, so as merely to hide the seeds from view. More seeds are lost annually by *burying* them deeply, than by any other mismanagement.

A Mammoth Rose Bush.

A MAMMOTH rose bush, the largest we think in the United States, adorns the cottage of one of our correspondents, Mr. S. A. Rendall, Santa Rosa, Cal.

From the description forwarded to us, we take the following facts: It was planted in 1858, and is of the Lamarque variety, well known as one of the most beautiful of the white colored sorts. It has grown during the past 15 years from a small slender bush, with astonishing vigor, just as all roses do in the wonderful air and sunshine of the Pacific coast, until it has clambered over the window and covered the very roof to the summit. Imagine a huge garland, or rather mountain of roses, 25 feet in height—22 feet across, splendidly developed, blossoming over a surface of 400 square feet, and having upon it at one time no less than 4,000 *full blown roses*, and 20,000 *buds*.

The stem near the ground, measures 24 inches in circumference; just above the ground it separates into three principal stems that grow over twelve feet to the cottage eaves, without lateral branches. These main stems pass between the eaves and a strong support attached to the house.

The engraving hardly does justice to the beauty of the rose, as compared with the photograph we received. As one of the most charming curiosities of floral growth, it seems to us a wonderful specimen of nature's prodigality.

The Greenhouse.

Greenhouse for March.

THIS is one of the most busy months in the year in this department, both in preparing stock for the flower garden and also in repotting and preparing plants for growing and flowering in pots for the remainder of the year.

Soil.

It is presumed that there has been some preparation in the way of providing soil for potting, previous to the winter season commencing; this should be attended to the previous summer, when the soil is dry. At that season we will give a few hints on the subject; at the present time we must write as if that was provided at the proper time and is now dry and fit for use in a convenient place, and may mention that soil should at all times be used about the same temperature as the house in which the plants are grown in; this is easily managed by filling a few boxes with the kind required and placing them the previous day in proximity to the heating apparatus; this is especially necessary for tender hothouse plants and young seedlings and cuttings.

Clean Pots.

We have seen people surprised that some tender plants made slow progress after potting where soil not much above freezing had been used, and, perhaps, also watered with cold water; it would be more surprising if many did not die. In last month's notes we mentioned the importance of keeping the pots containing plants in greenhouses clean by washing the outsides when necessary; it is quite as essential for the inside of pots to be clean when the plant is placed in it; if a dirty pot is used the roots cling to the sides to such an extent that it is difficult to turn the plant out again without breaking many of the best roots, or shaking the ball to pieces. We are aware washing pots is generally looked upon as a great waste of time and money in this country,

and for growing very cheap plants by the thousand in the trade there would not be sufficient advantage gained, independent of appearances, to compensate for the labor expended; but we consider a fifty cent plant will pay for a clean pot.

Draining.

It is an open question in this country if we should drain pots or not. We can only say both are right; certainly it is waste of time and loss of pot room to occupy space with crocks or charcoal in pots less than seven inches in diameter in which plants will remain but a few months, but it is equally waste of time to expect first rate results with large specimen plants, probably to remain in the same pot for years. We say nothing about such plants as Orchids; it would be absurd, and do not suppose the most thorough antidrainers would expect to grow these plants without drainage. We reserve all the broken flower pots to use for this purpose, and although we often have great waste in that respect, both from bad packing of new pots received, and also in plants received as well, besides breakage from some maker's pots which receive such a slight burning that when soaked with water they fall to pieces when handled from their own weight; this fault can be partially referred to the old theory that it was impossible to grow plants satisfactorily in a hard pot. We have grown at least as good plants in glazed pots and also in pots made of glass as in the usual make of pots, which proved to our satisfaction that soft pots were both unnecessary and unsatisfactory, and in large sized specimens very unsafe from liability to break when lifted, and probably break the plants at the same time, from falling to the floor.

Verbenas.

It is now time to propagate the principal collections of plants for the flower garden. Verbena cuttings should be rooted early in the month to have good strong plants ready to plant out by the second or third week in April; it is a mistake to keep Verbenas in

pots until May, even in this district. We have as fine a display of Verbenas as any one and the plants are planted in the open ground in April; although the tops make little progress at first, the plants are rooting and get well established before the hot weather commences, and then grow much stronger and better than later planted ones, which often dry up before the new roots take hold of the ground.

Zonale Geraniums are best propagated in the Autumn, and grown through the winter in boxes or pots, according to the space to spare; if in boxes these should be now potted singly in three inch pots and receive a little heat until established, after which the less heat they receive, except just to exclude frost, the stronger and healthier are the plants; any varieties of which the stock is short should receive extra heat and the cuttings rooted as soon as possible if good plants are expected for planting, but it is best to select those varieties which are known to flower well in our tropical summer, and only try a limited number of the novelties to prove their value, for some varieties which are fine at one place may be very unsatisfactory at a neighbor's, and comparatively few of the standard bedding varieties grown in Europe are useful here, and, unfortunately, many of the best are no use at all; several of the double varieties stand the climate and flower beautifully, but with us none of the Tom Thumb strain has been of any use whatever.

Alternantheræ.

Prepare at once a good stock of cuttings of *Alternantheræ*; this is a most useful plant for ribbon borders, edgings, or for carpet bedding, of which we will speak in due season; the *Alternantheræ* require keeping in a warm house through the winter, and also keep the young plants in a warm place or they will be very small at planting time, but it is surprising how fast these plants grow when hot weather commences. We have had plants grow more than a yard in diameter in the open ground, while in England they seldom

grow more than six inches. If dwarf *Lobelia* are grown from seed, it should be sown at once in a warm place, and picked off as soon as large enough to handle, but we prefer taking up a few late planted old plants; in fact one healthy old plant will grow hundreds of cuttings, which root very free in heat and shade. Seedlings are seldom to be depended on. At one time the plants will come true, and at another there will be a variety of size and colors. These plants are not so satisfactory in all cases as in England, where Golden Chain Geranium, and blue *Lobelia* edging is perfection, but the frosted silver plants are at home with us, and *Cineraria maritima* and *Centaurea Candidissima* are quite indispensable; these propagate freely from young side shoots, and will make good plants by planting time. Several other varieties can be grown if desired, such as *Trenum* and *Achrocline*, etc. These, from their dwarf and compact growth, are useful for miniature beds and delicate edgings, and to be effective must be planted very thick together; we must not forget the old fashioned variegated *Alyssum*; this is yet one of the best white leaved edging plants we have. A few old plants taken from open ground in October will give plenty of cuttings which thicken freely now, and will make nice plants by planting time.

Ladies generally like a bed of *Petunias*; they make a fine show, but usually grow beyond all bounds. A plant or two in a rustic bed on a lawn is most satisfactory; in this case they seldom grow so rampant and will flower well through the season. Of course we must remember a few *Heliotropes*; young shoots of these root freely and make nice plants if propagated at the end of month. These plants being very tender should not be planted until it is fit to plant tomatoes. The *Heliotrope* is a plant not well suited for a display of color, and is best planted with scented Geranium, Lemon Verbena and *Mignonette* in near proximity to the dwelling, both for enjoying the perfume from the plants and also convenient for cutting sprays when required, for self and friends.

Seed of *Mignonette* should be sown at the end of three months. This plant will usually sow itself, but will not always come up in the desired place, and *Mignonette* does not transplant well, so it is best to save a pinch of seed and sow when required, and thin out any plants not required.

A few *Sweet Peas* should be sown at the end of the month. These do well beside a fence, not a wall, it would be too dry : or a few branches can be placed round the plants for them to climb upon in borders.

It is now time to look to *Dahlias* if it is required to increase the stock, either by cuttings or division. But the *Dahlia* is no favorite of ours, and there are but few places in which it will flourish unless it is continually well soaked with water, yet, probably from old associations, it will continue to be popular with many.

A few *Gladiolus* potted now will be useful either as pot plants in the greenhouse or to plant outside. They will flower before the earliest planted dry roots ; by planting a few bulbs in succession, from the middle of April, this fine flower may be had in perfection until severe frost. In fact, when in England we have taken up a number of the late plants and potted them for greenhouse decoration, for which they are very useful at that season ; and the *Gladiolus* is a most accommodating plant, for it does not suffer in the least from such transplanting, if done with care, but continues growing and flowering as if nothing had disturbed it ; it is also most useful for cut flowers ; if cut when the first flowers are commencing to open, the remaining buds will expand the same as if growing on the plant, and in one instance which came under our notice, after flowering it formed perfect seeds. We remember reading of a grand fete in Paris ; for the decoration of some of the gardens, thousands of *Gladiolus* flower spikes were cut and placed in bottles of water which were plunged in the ground, and gave a very good effect as well as a gorgeous display of color, and being in this instance planted among other plants and shrubs would, in fact, give a much better effect

than planted in beds alone, the foliage of the *Gladiolus* never giving relief enough from the mass of flowers, which can be improved by adding foliage of other plants.

Cannas should be divided and some of the fine large flowering varieties added to the collection ; it is folly to grow the old small flowering sorts now, there are so many fine kinds to be obtained ; the plants are easier to send long distances before they have started to grow, and of course much less carriage. We mention this for the benefit of those proposing to make additions to their collections, for it is easy for those possessing a greenhouse to pot the tubers and grow them for themselves. We usually grow some plants on, for a few weeks, in five inch pots, for our own planting ; but dry tubers, planted in open ground, about the middle of May, grow very satisfactory, but perhaps do not flower quite so early as those started in the pots. We give the names of a dozen of the best and most distinct varieties, all or any of which will prove very satisfactory, and all very distinct from each other :

Adele Levalloie, very dwarf, seldom growing more than two feet high ; the flowers are large and bright crimson, flower free ; this is excellent for planting in front of tall varieties.

Tricolor—This is a beautiful variegated foliage variety, the leaves being striped with yellow-green, and rose color, and is very beautiful, especially the young growth. This is a dwarf variety seldom growing more than three feet high ; the flowers are scarlet ; this is also useful in a front row and also very handsome grown in greenhouse in pots.

Auguste Ferrier—This is a very large and tall variety, often reaching nine feet in height, with large Banana-like foliage, is very handsome for a single clump or the center of large subtropical beds ; it seldom flowers outside, but is a splendid variety for the foliage alone.

Bihorelli—This is the most free bloomer of all the varieties we know ; flower large and crimson. This is a dwarf variety, seldom exceeding four feet in height.

Bihorelli floribunda—It is difficult to fancy any cauna to flower more free than the former variety, and we can only refer the name to the fact that this plant is a stronger grower in all its parts, so that it is possible to place more flowers on a stem than in the former variety. This plant grows about five feet high.

Daniel Hocybrenk—This is a fine variety, with orange and salmon flower, sharp pointed green leaves, edged with bronze, grown to six feet high.

Jean Vardal—Light green foliage, and very large crimson-red flower. This plant grows about five feet high.

Marechal Valliant—This is the finest of the bronze-leaved varieties, growing to the height of seven feet, and bearing abundance of large orange-colored flowers.

Premices de Nice—Flowers of a clear canary-color, and very telling from a distance, the flower stems standing high above the foliage, which is a distinct sea-green. This variety grows from six to seven feet in height.

Senateur Chevreau—This is an early bloomer, color salmon, shaded with scarlet, and fine green foliage, height six feet.

Metallica—This is a very excellent bronzed foliage variety, with bright red flowers, grows from five to six feet in height.

Nigricans—Foliage rich dark bronze, quite distinct from either of the other bronze varieties, flower deep scarlet, height about six feet; of course all the above named varieties will vary in height, according to the treatment they receive, and the position as regards shade or full sun; the heights above given, are from plants placed in full sun, with a liberal allowance of rotten manure, when planted, but never watered or stimulated by any artificial means after planting.

Another valuable plant, which should be in every collection of subtropicals, is the *Arundo donax Versicolor*; the lofty shoots, covered with its beautiful striped-leaves, make a capital back-ground to a border, or center to a large bed; it is said to stand

the winter outside, and no doubt it is hardy in many localities, but the old plants will keep well if taken up and laid into soil in the cellar; the tops may be cut off to save space.

One of the best variegated hardy plants is the *Acorus Japonicus pictus*. This is a beautiful variegated form of the sweet calomel, which grows in our swamps, but said to have originated in Japan; but at any rate, it is a very useful plant for edging beds of tall foliage plants; the one-half of the leaf is a delicate creamy white, and the other half bright green; leaves from two to two and a half feet long. This plant flourishes best in a moderate damp soil, and of course would grow well in a swamp, or any very wet place. The *Acorus* being perfectly hardy, will require no attention besides replanting in the spring to keep it within bounds. This plant is also useful to mix with others in large hanging baskets, and also for cutting to mix in large vases of cut flowers.

Aralia papyrifera, or rice paper plant, is one of the most telling plants for either single specimens, or planted in large patches, where there is room for extensive planting; is well suited in such places as our splendid public Parks, as for example, in various positions near the lake in Central park.

Caladiums should be shaken out and potted into small pots, where they can receive a brisk heat; if that cannot be given, it is better to defer this until April; until then keep the roots in a warm dry place, the same as Tuberose, excepting that the bulbs require keeping in the soil they were grown in, or covered with sand; these plants are very beautiful planted in the flower garden, but for that purpose the plants should not be subjected to a very high temperature previous to planting out, or they are some time before starting to grow freely; we plant out a great variety of the colored leaved sorts; besides the usual *Esculentum*, *Javanerum*, etc., which are very fine in certain places, especially in large masses near water; but are often planted too indiscriminately to the exclusion of better things.

Window Gardening.

Plants in Hanging Baskets.

BY HORTICOLA.

IN my trips among my horticultural friends, I have often been surprised at the striking similarity in the selection and arrangement of plants in hanging baskets; and now wish to enter a plea for some of our more common plants—not with a view to the exclusion of many of the half hardy ones now used, but as an encouragement to many who have only attained partial success with the usual selection. I have more than once enjoyed the wonder of some of our celebrated florists over baskets which, on more careful inspection, are found to contain only very common plants. One of the more prominent of these cases was with a basket which contained one plant each of Trailing Morning Glory (*Convolvulus Mauritanicus*), Nasturtium, Honeysuckle, Strawberry, *Convolvulus Minor* (white), Partridge Berry (*Mitchella repens*), and common field Cinquefoil.

Those who have never tried it, can hardly imagine how much the character of some of the more common vines of trailing or climbing growth may be changed, by systematic crowding in a hanging basket, when it is accompanied with proper pinching back of both main and lateral shoots; not only is the habit of growth very much dwarfed, but the natural scattered bloom of such runners as the Nasturtium and *Convolvulus*, is concentrated upon a small amount of vine; and the superficial observer is often deceived as to the identity of well known specimens. Even such notorious stragglers as the *Convolvulus major* may be reduced to order, and behave themselves with becoming dignity in the hanging basket.

By proper treatment, the Nasturtium may be kept down to a length of two feet, and add very much to the beauty of the collection. The Trailing Morning Glory (*C. Mauritanicus*), may be pinched back until its

numerous side shoots are covered with a profusion of light blue flowers—or, if space will permit, it may be carried off in any direction. One spray of common Honeysuckle will do much to relieve the back ground of the basket: and although it rarely blooms under such cramped conditions, yet its foliage is an advantage.

Some speak highly of the *Sedum Sieboldii*, but I do not find that it does well in the changeable temperature of a common sitting room, but seems to have its proper room in the more equable air of the conservatory.

A plant or two of the common strawberry will do much to improve the beauty of the basket, and, like my humble communication, adding nothing of beauty of themselves, they serve to show the bright colors of their companions.

The Ivy for In-door Decoration.

We do not know a single vine so suitable for growing in the ordinary air of living-rooms and will stand so much hard usage as the Ivy. The only point on which cultivators err by neglect is the failure to keep its leaves well washed and clean. If this is done two or three times a week, and the soil watered as often, it will grow for weeks, and even years, without danger from change of temperature. Josiah Hoopes also recommends in *The Tribune* this vine, in answer to the inquiry of a lady who wanted something not too troublesome nor too tender. He says:

“Ivy will succeed better in our dry, warm rooms than almost any plant with which I am acquainted, and all that is needed to make it attractive is the exercise of a little ingenuity in the appliances for its home. A vase, not necessarily costly, by any means, will answer a good purpose: and this reminds me of an excellent idea I lately noticed in a foreign periodical for growing this very plant. Long shoots of the Ivy were procured, with the young and tender aerial roots very abundant. The lower ends were wrapped in moss, and then some five or six of these were tightly tied together at the bottom and placed in the vase. Fill the vase within a few inches of the top, and

suspend the ball of moss therein. The roots will soon commence to grow, and afterwards the moss should not quite reach the water, as the roots will extend down into it and prove all sufficient. So many very beautiful varieties of Ivy are now in cultivation that by selecting kinds that will form a decided contrast in shape and color the effect will be sensibly heightened. The center of the vase may be filled with cut flowers or grasses, or, indeed, nothing would look better than ferns. The Ivy may be allowed to hang down over the sides of the vase in graceful festoons, or else trained over and around the window, thus making a room appear cheerful and pleasant all winter long. It is not necessary, and, in fact, I do not believe it will grow as well in the strong light as when in a partially shaded position, as the Ivy loves shade and an even, cool atmosphere. I have known instances where Ivy has been grown in large tubs and trained up a stairway, thus forming a mass of green foliage from the hall below to the floor above. Used in any way, as fancy directs, it is unexcelled as a house plant."

A Parlor Window Garden.

In our parlor window I have at present a delightful garden, consisting of a new green-leaved Myrtle in the center, on each side of which is placed a plant of India-rubber tree, and between these and the sides of the window two pretty plants of *Veronica Imperialis*, bearing respectively eight and twelve expanded spikes of beautiful purple flowers. In front, next the glass, I have two elegant little plants of *Acacia Lophantha*, and on either side a potful of Roman Hyacinths; then two nicely variegated-leaved silver tricolor Pelargoniums, and two pots, each containing four *Duc Van Thol Tulips*, similarly placed. In each corner is a potful of Ferns, *Pteris serrulata* and *Adiantum Cuneatum*. The whole is set in a framework of *Jasminum Nudiflorum* trained up both sides of the interior of the window; two branches being introduced from a plant grown outside, through apertures made purposely for them. They are laden with flowers in even greater profusion than the shoots outside, and they come into flower a

fortnight earlier. The surface soil of the Myrtle, Veronica and Acacia pots is covered with *Club Moss* (*Selaginella Kraussiana*), intermingled with some seedling Ferns.—*The Garden.*

A Parlor Flower Box.

A device for holding easily a large number of window plants is thus mentioned by *Forest and Stream*:

Among the not expensive window gardens we may name a device we used in our own sitting-room, which we called an "adoptive case" as we made it a receptacle to receive our flower pots, and our experiment not being patented, and not beyond the constructive genius of the village carpenter, of course any one who chooses can have one made to order. Our window shelf being six inches only in width, we had a box made that would just fit into our window, of the following dimensions: The length of the box was three feet, the depth fourteen inches, and the width fourteen inches. Into this box we had a zinc pan placed, made so it would just fit the inside of four inches in depth. This box was to receive a drainage of surplus water from the plants, had a hole to draw off dirty or surplus water from the end, and was stopped with a wooden stopper. A box of this kind, properly made and attended to, would not need drawing off perhaps during a winter, and I am speaking of the winter treatment of plants now.

Having placed the zinc pan within the box, fill the same with tolerably small bits of broken crock until it is even with the top of the pan; then cover the top of this pan with a thin piece of board (pasteboard will do), in which holes are bored, and then place your composition of earth for your plants; set out your plants, choosing those of any of the species you may wish, and at once commence your study and treatment of the same. With such a simple box as this you may grow not only our native American ferns, but add to them from time to time, as your progress in knowledge increases.

The Flower Garden.

Rose Beds.

BY C. P. HAYES, OF MILLER AND HAYES, PHILA., PA.

AS the formation of a rose bed is not designed for the season only in which it is planted, but to remain permanently, annually increasing in growth and beauty, it is therefore necessary to select those best adapted in habit, growth and variety of flowers to accomplish these results. From the large number of varieties now grown in this country, it would seem that little difficulty should be experienced in making the proper selections, and indeed it is true, a rose bed composed of the popular old varieties may at all times be an object of admiration and interest, still we think the general appearance and effect can be vastly improved by choice selections and proper arrangement. Generally, the amateur prefers the bed to contain individual plants properly assorted and arranged, harmonious in form and varying in color of flowers, rather than comprising one entire color, however rich. And in this we believe him to be correct, unless he has a large garden in which collections of specific colors can be formed in groups, or an extensive lawn, where a rosarium can be artistically and tastefully planted with all the groups in variety and also in masses of definite colors for producing the finest effect and beautiful contrast. For single beds to complete desirable results during the entire season, the varieties should consist of selections from the classes or groups, known to rose growers in their specific names, as Noisettes, Bourbons, Hybrid Perpetuals, Teas, etc., each possessing qualities of peculiar merit, and from these we are to select. As stated in a former article, the novelties and improvements of the varieties in some classes has indeed been very striking, and we could name many combining the most desirable qualities suitable for enriching a choice bed, but to do so at present, might deter many from enjoying a good rose bed, by their inability to pro-

cure them in quantities, owing to the scarcity and consequent high price. Therefore we propose to name some of those of known merit, mostly grown from importations of the past five or six years, in connection with the deservedly esteemed older varieties, now raised by most of our florists, who give any attention to propagating the rose. The usual form is a circular bed. In one of fifteen feet in diameter, four circular rows can be planted with roses two feet apart and two feet from each other around a center. The center and first circle should be planted with the most vigorous and erect-growing varieties for training to stakes from four to six feet in height. The roses well suited for this purpose are, *Hybrid Perpetuals*, Glory of Waltham, Genl. Jacqueminot, Le Enfant du Mt. Carmel, Madame Baronne de Rothschild, Madame Chirard, Madame Barriott, Duchess of Sutherland, Jules Margotten, Thyra Hammerick, Geant des Batailles, Paul Neron, Baronne Hausmann, and *Noisettes*, Washington, Margarité, Ophyrie and Solfaterre. (These may be classed as pillar roses, and any of them used as single specimens on lawns or in gardens for that purpose.) For the second circle from the center we would name other *Hybrid Perpetuals* of robust habit, but more moderate growth, as Comtesse D'Oxford, Prince Camille de Rohan, Xavier Olibo, Achille Gonod, Virgil, Princess Christian, Dr. Lemee, Genl. Washington, Aurora Borealis, Bertha Baron, Chas. Lefebvre, Coquette des Alps, Edouard Morran, Felix Genero, Jno. Hopper, La Reine, Madame Victor Verdier, Souv. de Wm. Wood, Reine Blanche, Vicomtesse de Vezins. Third circle from center: *Bourbons*, Souv. de la Malmaison, Hermosa, George Peabody; and *Hybrid Perpetuals*, La France, Marquise de Castellane, Marie Baumann, Pitord, Perle Blanche, Henri Pages, Beauty of Waltham, Alfred Colomb, Boule de Neige, Mons. Boucenne, Velours Pourpre, Victor Verdier and Lady Emily Peel. Fourth and outer circle may be planted six inches from the border and closer in the row with *China Roses*, as Agrip-

pina, Archduke Charles, Ducher, Lucullus' Roi des Cramoisiés, Louis Philippe, Mrs. Bosanque, Sanguinea, White and Pink Daily. All named above are hardy varieties requiring little or no protection, but would be benefited and improved by having a liberal supply of coarse stable manure spread over the entire bed during the winter. If desirable to have Tea roses in this bed, the outer circle might be composed in part or solely with them, in lieu of the Chinese, to be lifted in the fall, potted or heeled in a cold frame to be planted again in the spring.

Most of those named for a hardy rose bed, and particularly the strong growing varieties, are specially adapted for planting in low shrubby borders, in lawns or gardens, producing fine effect when freely commingled with other shrubs, by the pleasing contrast of their brilliant and gorgeous blooms, with the delicate green leaves and beautiful flowers of many of the new and hardy shrubs.

A bed composed entirely of Tea-scented Roses would be the greatest luxury in flowers the amateur could possibly possess, but in our climate, and farther north where the thermometer sometimes descends to zero, it is doubtful whether we will ever succeed in growing and enjoying all the varieties, though there are instances of individual strong and vigorous varieties having been grown successfully in the open air for years, but if ever thoroughly successful, it must be accomplished by extra care in protecting them for several months during the winter season. This is owing, in a great measure, to the natural habit of the Tea Rose in growing and flowering so late in the season, thus failing to ripen their wood sufficiently to encounter and endure the long continued dry and cold winds that prevail so often during the winter season; therefore, to rely upon a successful bed of Tea Roses, we can only recommend their being lifted from the beds late in the season and potted, or heeled in a pit, cold frame, cellar or other protected place, to be again planted in the spring, and, indeed, they are worthy of this attention and extra care, which they fully repay

by their continuous beautiful and delicate blooms of delicious odor.

For a circular bed, or beds similar to that for Hybrid Perpetuals, the center and first circle should be planted from selections of the strong-growing double varieties for training to stakes. They are mostly composed of those having the marked characteristics of the Noisette, to which they are nearly allied, as Gloire de Dijon, Madame Celina Noirey, Madame Trifle, Madame Berard, Marie Sisley, Le Florifere, Madame Gailard, Mad. Emily Dupuy and Monplaisir.

For the second circle those of good habit, but less vigorous in growth, as Devoniensis, Safrano, Madame Azelie Imbert, Isabella Sprunt, Madame Russell, Marie Van Houtte, Souv. d'un Amie, Triomphe de Luxemburg, Hortensia, Homer, La Pactole, Comtesse Ouvaroff, Souv. de Paul Neron, Perfection de Monplaisir.

For the third circle those of moderate growth, as Belle Maconnaise, Coquette de Lyon, Annette Seaut, Sulphurieux, Catharine Mermet, Hypolite, Souv. de Elise, Comtesse de la Bath, Madame Ducher, Jean Pernet, Madame Jules Margotten. In the outer circle those of short growth, as Victor Pulliat, La Jonquille, La Boule d'or, La Nankin, Ma Capucine, Comte de Gravel, Madame de Narbonne, Jeanne d'Arc, Bianqui and Bella. As we have named some varieties in the different circles grown from recent importations, the habits of which are not fully established, these from year to year may be varied in position, as the tendency of the variety may prove more or less vigorous in growth.

The Tea Rose is indeed the best class for greenhouse culture, and a richer treat cannot be enjoyed than that produced by a house filled with them, constantly developing buds and blossoms, continuing longer during the year than any other flowering plant, the flowers also attaining greater perfection than can possibly be had in open air culture. They may be planted as above, only placing those of running habit to be trained to the rafters and pillars.

Popular Flowering Shrubs.

BY JOSIAH HOOPES, IN THE INDEPENDENT.

WE believe there lingers in the mind of every dweller in the country, although infinitesimally small in some, a desire for rural adornment—some little natural landmark, as it were, to break the otherwise desolate appearance of their dooryards. Do not the ever-present clumps of Lilacs and Snowballs afford ample evidence of this latent taste, and is it not a proof that, if opportunity offered for culture in this direction, there would be many a beautiful blossom casting joy and gladness over those of our households now slumbering in blissful ignorance of its very existence?

In the great multitude of varieties classed under the expressive title of Flowering Shrubs it becomes an exceedingly difficult task to select a few suited to moderate means. The great improvement made in these plants of later years increases the longing to possess them all; as the greater portion really combine the requisites of perfection—i. e., hardiness, profuseness of bloom, distinct color, and adaptation to most soils.

A few remarks relating to the systems of planting may not prove amiss. Two plans were pursued by our grandfathers, or rather our grandmothers, in decorating the little space surrounding the house and conscientiously hedged in by the whitest of white-washed pales. The first and most conspicuous of these was the strictly mathematical style, where the space between every tree, shrub and flower was measured as accurately as if a hair's-breadth one way or the other would be dollars out of their pockets. The other plan is best explained by terming it the crowded, incongruous style. In this every available spot was set with a plant or tree, as if the ground were too precious to be wasted.

"Why," said an elderly lady of the old school, lately, to a gentleman whose very beautiful lawn had recently been planted according to the naural style of grouping, "don't you scatter your trees and plants all

over the place? They would show off so much better?"

This expresses the ancient idea of fitness exactly—sacrificing beauty to mere show. In arranging our shrubs, two essential ideas must be kept prominently in view: the first, as a matter of course, is to exhibit the bloom as fully as possible; and the other is to arrange the plants with an eye to effect independent of the bloom. Many gardeners neglect the former altogether, and more of our amateurs ignore the latter.

A specimen shrub standing singly on the lawn, provided it is in a proper position and possesses some marked characteristic, is capable of calling forth general admiration; but, as a general rule, flowering shrubs present a much better appearance when naturally grouped together, either three or four in a clump or a larger number in a mass or prolonged belt. In arranging these, knowledge must be gained in advance as to their size and habit, the color of the flowers, and the period of their bloom. All this is necessary to prevent forming a jumbled heap of foliage, without order of arrangement.

It has been said that every position of a tree and plant, every curve in a walk, in fact, every detail of our lawns should show of itself just why it was so constructed; and this is a lesson that very many of us have yet to learn.

In a small clump of say three or four plants a pretty effect may be produced by using one variety that is especially showy—as, for instance, the great-flowered Hydrangea (*H. paniculata grandiflora*); or it may embrace as many different colors, all blooming about the same season, but uniform in height and general character.

The most extensive belts and masses should be so designed as to have the taller and coarser species and varieties in the back, gradually sloping down to the front; or, if out on the lawn, a large plant must constitute the center, with those of smaller size around the outer edge. And do not make the group too formal in its outline; an undulating margin pleases the eye far better than

the exact curve or precise circle in landscape gardening.

For a few years after planting, shrubbery needs shearing, to produce a dense habit; but, as good taste deprecates anything like regularity of form, it is best to let Nature have her own way as soon as the requisite bushy habit has been gained.

We have a class of shrubs not cultivated for the beauty of their bloom alone, but for the showy appearance of the foliage as well. Take, for instance, the Purple Barberry, Dwarf Variegated Wiegela, Variegated Elder, Purple Hazel, Variegated Dogwood, etc., and set these in a group. We thus produce a constant show all the season through. And, whilst beauty of foliage is being discussed, let us suggest the Green Briar and American Ivy, to clamber over a mass of common coarse shrubs somewhere in the background of the place; so that, in addition to the graceful festooning during summer, in the autumn they will be gorgeous in color and we shall be well repaid for trouble.

We will allude to one other system of arrangement in planting, and then pass to the consideration of the shrubs themselves. Bedding is practiced only with special kinds—that is, a bed of any shape in keeping with the location is dug, and, after being suitably prepared, the plants are set at proper distances to form a complete mass.

Roses, Rhododendrons, Azaleas, etc., are all examples of this character, and show to far greater advantage than when dotted about singly upon the grass. In these beds bulbs of various kinds may be introduced, especially Gladiolus and Lilies.

For convenience of description, we propose to arrange our most popular flowering shrubs into three distinctive classes. First, those of largest size, used mainly for the backgrounds of large groups, for screening unsightly objects, and for shelter belts; secondly, those of medium size, embracing, perhaps, the greatest assortment of beautiful species and varieties; and lastly, the low-growing plants, suitable for the outer edge of clumps, as well as for small clumps

themselves, and for bedding purposes. In the first of these, recent introductions cannot well surpass the fine old Snowball, common Pink and White Lilacs, Double Corchorus, Sweet-scented Shrub (*Calycanthus*), Missouri Currant, Burning Bush (*Euonymus Europæus*), and Mock Orange or Syringa (*Philadelphus*). Instinctively our thoughts revert to these as a part of our childhood's treasures, that we wish to preserve as long as life shall last.

[To be continued.]

Supports for Climbers.—We have standing in flower beds on our lawn two rustic supports for flowering vines, roses and the like, that are so pretty, cheap, easily made and efficient, that I thought some of your many readers might, perhaps, like to make something of the kind for themselves. Ours are made of red cedar bean poles, ten or twelve feet long, simply nailed together where they cross each other. Very likely they may be made different from either of these, and be equally pretty. They look well on a lawn in winter, when, of course, they are naked; but, when clothed with brilliant flowers in summer, they are beautiful.—*Country Gentleman*.

Prolongation of Bloom.—An exchange states having recently seen an instance of roses being preserved from early frosts which it deems worthy of note. They were chiefly late bloomers and at midsummer, after the first late bloom was over, the bushes were pruned and pegged down within a few inches of the ground, and small stakes were set among them a few inches higher than the plants. Every evening, when there is appearance of frost, mats used for protecting hot beds are thrown over them. By this slight protection they are yet in the greatest perfection, while others uncovered have been much injured and have generally ceased to bloom. Such of our readers as have these beautiful plants yet unharmed cannot do better than try this, as many of the finest roses only produce their best bloom after the greatest heat of the season has past. Other late blooming plants might also be protected in this way.

The Vegetable Garden.

Potatoes—Brownell's Beauty.

BY W. H. WHITE.

IN the fall of 1871 Mr. E. S. Brownell of Essex Junction, Vermont, sent me three varieties of seedling potatoes, to test on my soil, etc. The potatoes all came from seed of the Early Rose, fertilized by the White Peachblow. In shape two resembled each other, but while one was a russet white the other was a red, or deep flesh-colored skin, with white meat; the other a light straw-colored meat; each cooked well through. These two were fair, smooth potatoes, few and small eyes; the other was a rough, large white potato and undesirable as a table potato. These potatoes I cut to single eyes and planted in the spring of 1872. The worms eat them so bad that they almost destroyed them, although I got enough to give them a fair trial as a table potato. The result of the trial was reported and published in the *Country Gentleman*, Nov. 7th, 1872. The names given me of the potatoes were Nonesuch and Vermont Beauty—this last as Brownell's Beauty. In my report this potato is thus spoken of: "This potato I consider his best, as to quality, on my soil—white flesh and of fine flavor, cooking just about right as to mealiness and evenly throughout, devoid of any ground or unpleasant flavor; should call it a first class potato for the table, and, if it should prove equally good in other localities, a decided acquisition in the potato line." Another year's trial of this variety more than makes good my then expressed opinion. This potato I thus describe: Color, skin red, or a deep flesh, meat white and fine grained; size medium to large, growing very fair and smooth; eyes few and small, scarcely sunken below surface; shape oval flattened; stem set on prominent; quality, for the table they cook equal to the *very best*, and with ordinary boiling they *cook through to the center evenly and mealy*; are never hard,

hollow, watery or discolored at the core or center; flavor unexceptionable, never leaving any disagreeable taste after swallowing. The growth of vine top is medium in size; foliage a handsome healthy green, and in all respects healthy. They grow very compact in the hill and are easily dug, ripening in about three months from planting, or about a week later than the Early Rose, with the same culture. In productiveness there is nothing wanting, for the yield equals the most productive of edible varieties, a very large proportion being of good table size. Their keeping qualities excel that of any other variety, retaining their freshness, soundness and other good qualities until long after new potatoes come, in summer, in an ordinary cellar, and with very little care.

This year I planted eight hills, some five or six eyes to the set and hill, on the poorest part of my garden—a thin, sandy, loam soil—with a shovel full of dry manure scrapings to the hill, the first week in July; the 6th of October dug them, and the following day weighed, turning the scales at thirty-two and a half pounds; not more than a dozen except that were of fair table size; some that would weigh three-fourths of a pound.

Westborough Mass.

A correspondent in Princess Anne County, Virginia, reports that one farmer, from 300,000 plants set out in November and December, obtained a spring crop of cabbages amounting in value to \$13,000.

It is said that at the Denver Fair "cabbages of fifty pounds, pumpkins weighing more than a hundred each, and turnips and beets of fifteen pounds apiece were the rule and smaller ones the exception."

The business of canning tomatoes has largely increased in Cumberland County, New Jersey, where \$100,000 worth of that vegetable are annually raised for this purpose.

Travels.

Orange Culture in Florida.

BY AL FRESCO.

[Concluded.]

MR. O. refers to the "application of muck as being injurious because it is a powerful absorbent of ammonia." In the name of common sense, where does it obtain such an excess of ammonia? Certainly not from the soil or atmosphere. I will simply ask Mr. O. if the application of fresh muck in excessive quantity, does not injure vegetation in consequence of the presence of an excess of humic acid? which condition could be changed by exposure to the atmosphere, or by the addition of lime or ashes. In our communication, we referred to the abundance of muck, and stated that "lime is cheap." We did not consider it necessary to point out the fact that muck required manipulation before it was adapted to supply plants with the elements of growth. We did not deem it necessary to discuss the principles of agricultural chemistry, which we imagined every horticultural tyro understands.

Mr. O. refers to the thinness of the soil, and the deficiency of pasturage. We do not question the correctness of his statements, for we have reason to believe that his observations have been confined to the eastern portion of the State, where a thousand acres of land in most localities would be dear at any price. But his remarks do not apply to many portions of the state. Mr. O. is like many others who have condemned the State—they have not visited or examined its garden spots.

Mr. O. asserts that often one-third of the fruit on a tree cracks open before ripe. That such an accident may occur in the region where Mr. O. resides, I do not for a moment question; for if the soil is such as he describes, the trees cannot mature a full crop. In all my wanderings in the State, during summer and winter, I never heard

such a thing referred to. Even though one-third should fall off, orange and lemon trees set such immense quantities of fruit, that "one-third of a crop" could be spared. Apples and pears crack and are seriously injured in our northern states, yet they are profitable. In some soils and in some locations those fruits are a failure, yet such is no evidence that they cannot be successfully grown in other localities.

He informs us that the fruit does not bear transportation, as well as that raised in drier climates. This is true to a certain extent; for the Mediterranean and West India fruit is so thick-skinned, spongy, and juiceless, that it cannot be injured to the same extent as the luscious orange of Florida. The oranges produced in Florida are to a great extent thin-skinned, and overflowing with luscious saccharine juice. One reason why Florida fruit decays, is owing to careless packing. They are picked and handled without care, seldom sweated. When packed they are placed loosely in barrels; and during their journey, they are rolled from wagon to dock, dock to boat, and the dose is repeated until every orange is bruised. When the growers pick and handle the fruit with care, subject it to a sweating process, and pack it in proper boxes, with each fruit wrapped in paper or dry moss, the fruit will carry to our northern markets successfully. Mr. O. tells us that much of the fruit is lost whilst *en route* to our northern states, but neglects to refer to defective packing, and does not even give us an idea of the percentage of loss. The official returns of the port of New York show that 25 per cent. of Mediterranean, and 45 per cent. of West India fruit decayed. Even with defective packing we question if Florida fruit decayed to the same extent. Last February I gathered oranges at Enterprise, Melonville, Harts and Moragnys groves, at Palatka, Manatee, Tampa, Sumpterville and Booksville, and carried the fruit with me during my travels, uninjured, until I arrived at my northern home.

Your correspondent refers to a grove of 50

trees that had not produced a peck of oranges in 25 years, which goes to substantiate my statement, that great care should be exercised in selecting a suitable site and soil for a grove. He refers to the failure of orange trees if planted in a soil where water can be reached in from two to five feet beneath the surface. If he had dug as many holes as I have at St. Augustine to determine this very fact, he might be induced to change his opinion. I can refer him to one lemon tree, the crop of which sold for over \$100, and potable water can be obtained at any time near the tree, by digging a hole less than three feet deep.

Your correspondent asserts that the women living in what is considered the best sections for orange growing, would be quite glad to leave the country for good; and he seldom found a man who had been living on his place for five years, but would gladly sell for one-half cost. Last winter, I made it my business to visit large and small groves owned by "women" and men, and in no instance did I meet with a person who would sell their groves, old or young, for anything like a reasonable price—much less at a sacrifice. Mr. O. refers to his observations and his town, but he leaves us in the dark regarding where he has found women so ready to sell; or the whereabouts of "his town." It is a self-evident fact, that he has not examined the groves at St. Augustine, Mandarin, Darcy's Landing, Orange Mills, Palatka, Eaton's Grove at north end of Lake Monroe, where the fruit of one tree has sold for \$140; at Enterprise, near Melonville, Burman's or Dummit's Grove on Indian river—the latter having yielded over a quarter of million of oranges in one year; the groves at Manatee, Tampa, Sumpterville, Booksville, Orange Lake, Micanopy or on the Appalachicola river.

At one time I entertained views regarding Florida similar to those of Mr. O., but later experience, extensive travel and careful observation induced me to change them, and I have no hesitation in stating that in my opinion, portions of the State present greater

inducements for settlement than any other section of the United States. And in conclusion, I can assure your readers, that orange and lemon culture will prove more remunerative than any other description of fruit growing in the United States. So convinced am I of this fact, that if it were necessary for me to engage in any description of business for a livelihood, I would embark in orange culture—not on the poor "sandy soils" with a sandy foundation, but on the rich loamy soil to be found in many portions of the State—localities evidently unvisited by Mr. Oliver, but carefully examined by "Al Fresco."

Greenhouses of Miller & Hayes.

DURING a recent visit at Germantown, Pa., one of our most enjoyable visits was spent at the greenhouses of Messrs. Miller & Hayes. Within the past three or five years this firm have developed a peculiar trade, erected a large number of greenhouses (13), and have become in new specialties the largest growers in America. The Rose is their favorite flower, and the enthusiastic admiration which the advent of a new and desirable Rose creates in their spirits can not half be appreciated unless the beauties are seen for themselves. However, Mr. Hayes' articles in our numbers tell capitally some of the best sorts, and give the names of the newest and most remarkable.

Prominent among them all are the two favorites, *Mme. Celina Noirie*, a fine showy Rose in its blossoms, and an excessively strong grower and very hardy, a capital sort for any amateur.

Madame Triflé, an excellent showy Rose of most exquisite yellow color, petals tinged with violet, with the admirable characteristic that its blossoms will hang for three weeks a steady bloom, as compared with the *Saffrano*, whose blossoms fade in a day. This feature is of great value.

The *Miller Hayes Rose*, of which we have made previous mention, as a complimentary name given by E. Verdier to his most valu-

able seedling of 1873, is here observed to possess remarkable vigor, and promises to be of exceeding value. Although it has not yet bloomed in America, yet the cautious description of M. Verdier leads us to expect from it points of fine merit. The flowers are large, full and fine, cup shape, thick petals, color crimson, with bright center and shaded dazzling velvety red; erect reddish shoots, short spines very vigorous in growth, a seedling of Charles Lefebvre, and pronounced Rose of the first class—was first named and introduced by Verdier, in November, 1873.

Among the numerous collection of valuable plants and seedlings, our attention is attracted to the new *Coleus*, *Nellie Grant*. This is of excellent habit, very vigorous, possessing nearly the same crimson shade as the Queen Victoria, but with broader yellow margin on the tip of the leaves. We can imagine that for large bed masses it would create a splendid display of color and a distinct contrast to the beds of the darker colored sorts. It has received the best premium at two successive meetings of the Pennsylvania Horticultural Society. It is not known where it originated. An additional characteristic of its growth (contrary to the usual habit of such plants, where the marginal colors grow less with increasing size), the yellow margin of the leaf in the *Nellie Grant* is found to grow broader with added age and size of the plant, while the crimson center becomes more brilliant.

Among the new *Geraniums* now attracting distinguished notice is the new variety, *Master Christine*, a splendid truss of delicate pink, and a strong grower. It seems from its character capable of sharing a permanent and worthy popularity with the old favorites of attraction, *Warrior* and *Gen. Grant*. We saw it in one of the gardens near Boston in the fall of 1873, where it seemed to be considered a success, and an admirable bedder.

The most attractive and satisfactory bedder for 1873 was the *Lucius*, and we can conceive nothing more dazzling than a dis-

play upon the lawn of beds of both the *Lucius* and *Master Christine*. Among the other good plants observable in the greenhouses are new varieties of the Ivy. We were especially interested in the following, which we consider worthy of general notice and commendation:

Hedera digitalis, a beautiful sort for hanging baskets, possessing peculiar striped veins and leaf ribs.

Hedera folia picta, exceedingly variegated with yellow, growing more marked with age; considered best of the variegated class.

Hedera latifolia elegans variegata, charming.

Hedera Japonica versicolor, a rapid grower, beautiful white bordering.

Hedera algeriensis, possesses a very large leaf, fully six inches in length, at first light green, then turns quite dark. It is found to be quite hardy, and we cannot imagine a more desirable sort for arbors, balconies or the lawn.

Among the other attractions are the new and remarkable show of Pansies, mottled shades, just imported from Europe; also the Carnation, of which there is one new sort, *Glorie de Venus*; the new collection of *Aloes* of nearly twenty varieties; a fine plant of the *Araucaria excelsa Imbricata*.

Among the hanging baskets, which were numerous, we observed what an excellent addition was *Enonymus variegata*, its peculiar yellow and green foliage showing to great advantage.

The *Echeverias* were grown quite largely, and public taste is now demanding them in such quantities that they are becoming an article of considerable sale.

Observing a group of the *Cyclamen Persicum*, we are pleased to observe some with flowers of pure white and remarkable size with but small pink eyes. This has been named the *Grandiflora*.

Considering the rapidity which has characterized the erection of these greenhouses, and the excellent management and large quantity of stock, all developed within three years, it is a matter of congratulation that the public have such taste as to lead to the successful patronage of so good a floral resort.

Fruit Culture.

General Principles of Pear Culture.

BY S. J. PARKER, M. D.

NO fruit so constantly maintains as high prices as pears. At first it would seem difficult to account for this. But the quality of a well ripened pear is very high, and the overstocking of the market quite rare. The tree is rather more subject to disease than the apple, but while apples are the great orchard fruit, it is difficult to say why large pear orchards, especially of standards, are compared with apples, so few. Even supposing the estimate of five trees in each hundred to be the annual average loss by pear blight in the United States, it is even then no reason why pears should not be more largely cultivated. But we do not believe that the average pear blight loss for the Middle and Northwestern States is over two trees in each hundred by the blight. We are sure that many a pear orchard does not lose annually an average of one tree.

Perhaps one reason why more pear trees are not relied on for pecuniary profit is, because of their slow growth. We know of quite a number of orchards that were diligently cultivated for a few years; then abandoned in disgust; sold at loss, and neglected for a few years, but now when fifteen or so years of age has been acquired, they pay liberally and with reliable certainty their present owners. This fact of the necessity of time to mature the tree and bring it into healthful bearing, is an essential to be fully understood before one invests his capital in pears. Such examples as this often occur: Lawyer Sudden-zeal buys five acres for a pear orchard. He is going to get, in four to five years, Bartletts and Flemish Beauties, and other varieties, worth sixteen dollars a barrel wholesale, and retail prices to match. He plants. Not a weed grows in all the orchard for three years. Then the trees are not much of a sight, nor reliable as he

supposed, and he tires, and in two years more the orchard is sold, and Lawyer Sudden-zeal is out of pocket over one thousand dollars. Dr. Hard-bargain buys it next, and means to show Mr. Sudden-zeal that he can get pears. But the Doctor loves to smoke and gossip in his office, and that is not good pear culture; and he lets the weeds and grass grow worse than ever. Jim Cash-grab then buys the orchard of the Doctor at a loss of six hundred dollars more. Jim sells all the trees he can at any price, skin-flints the orchard, but fails to do much harm, and at last sells to Mr. Move-west the elephant, openly glorying that he sold a hundred trees at a dollar each, and got out of that bad job, at only a hundred and twenty dollars loss. In the meantime the twelve to fifteen years of age have passed over the trees.

Mr. Move-out-west is from the East, where labor is not despised. He looks over the forlorn five acres, and concludes that two years hard work will infuse life into the orchard. He replants the spots whence the skin-flint Jim Cash took out trees. He carefully cultivates, and patiently expends one third of all he expects to get each year on the trees, and has a steady annual sale of six to eighteen hundred dollars profit, out of the very land and trees hitherto so unprofitable, and so often sold by its owners. Such is the private history of many such an attempt. Whence these errors? and why do these ever present characters of brainless attempt, supposed good luck and sharpness, cash-grab, and in the end successful thrift, follow in regular succession? Is it not because the real work, the long time, the clearly foreseen final result is not understood?

Again. As countries grow older, the apple ceases to command high prices as compared with the pear. We do not think this always just or desirable. Yet, if we read the history of the culture of each, rightly, this is often the case. Of the reasons for it, I will name but one. The original scattered population of New Eng-

land and the Middle States, with scattered homes, mainly on farms, know that the apple, eaten at all times and to satiety, is the best fruit. The few pear trees soon satisfied the appetite. Hence farmer Quiet-neighbor found that his ten pear trees gave him all his family could eat of pears; and though he sold now and then a bushel or a peck at prices far beyond any apples to some man whose mercantile or other employment gave him cash and a taste, yet too often it was that Tom Workly-by-the-day, in settling accounts, took ten bushels of grafted apples at thirty cents, and a peck of pears at forty cents—the latter for “family preserves” and for “the wife and children.” Now though “the preserves,” “wife and children,” might have the best flavors and sense of values, yet “in the olden time” this practicality of Mr. Work-out left its impress not yet effaced. And it will be difficult to change it in the general farming population. A farmer of the average mental capacity will put out ten acres of apples in his orchard, and ten pear trees *in his door-yard*. One of less capacity will put out five acres of apples, and one pear sprout, whose fruit is as hard and knotty as an oak knot. The apple he will buy of a traveling pedlar, the pear he will beg or dig up at the root of some old tree, whence it sprouted. It is singular in the opinions and practices of mankind, how many men are controlled by such half traditional, half obstinate ignorance! Yet even such a man will covet the young trees of Merchant Thrift at the post office, or hire the right to the trees set out by Poor-coot, who once built a log cabin on the hill, bought and planted a few choice trees, died an inebriate, and the log cabin burned up, leaving the rose bushes, shade trees and fruit struggling in the meadow, as it now is of Esquire Buy-upland, the relics of the once educated taste of inebriate Poor-coot and his disappointed but gentle wife. But such country legends aside, they show the value set by even thoughtless men on the pear. They also show us that it is the ever growing literary,

educated, and those employed not in farm or other produce, who hug and love the pear more than the apple.

And hence, as these are in all nations more numerous, as the nation grows older, the buyers of pears multiply, even if those who eat apples do not decrease. This consumption of pears, then, is mainly in our towns, cities and villages; and as they ever grow, it renders the large cultivation of pears a certain source of remuneration.

We call these facts to the attention of the readers of *THE HORTICULTURIST*. With right principles, and with long expectancy, plant the pear orchard. Not to gather early its fruits, but its late, and its certain results of liberal reward. We are glad that a few localities are wise enough for this; that certain individuals are famous for this their wisdom. We believe many more could be added to the list. Plant, we repeat, wisely. Expect patiently. Gather surely.

Pear Culture—Growing Pear Trees.

BY M. B. BATEHAM.

IN considering the question whether it would not be better for me to plant a large pear orchard, instead of replanting my peach orchards, which were ruined by the past winter, I have come to the conclusion that pears will pay me the best, if I can procure suitable land; and as the result of my observations for the past twenty years, in Ohio and elsewhere, I am convinced that the pear crop is more reliable than any other of our tree fruits—less liable to failure or injury from severe cold and also from attacks of insects.

Peaches, of course, are unreliable everywhere; and here in Ohio, as in all the older States, the apple crop is more and more subject to failure, from drouths and the myriads of insect pests, as well as fungoid diseases; while with plums and cherries the case is still worse. But any one who travels and observes, or reads the printed reports of the crops, will find that even in seasons like the present, when all other fruits are nearly or quite failures, pear trees that are of suffi-

cient age and size are generally bearing a fair crop of fruit.

In a letter just received from Mr. N. Ohmer, of Dayton, O., an extensive fruit grower and President of the Montgomery County Horticultural Society, he says he has about fifteen hundred standard pear trees, most of which have been in bearing for eight or ten years, and during that time have borne a partial or fair crop every year; while the apple crop in that vicinity has not been a fair one but once in that time, which was last year. So that he considers the pear crop much more reliable than the apple.

As to the blight, he has suffered some loss of trees thereby, but not much where the soil was well chosen and the trees of suitable kinds and well trained; had very little blight last year, and almost none this season. He does not let the fear of blight deter him from planting pears; for only two years ago he planted, as an experiment, an orchard of *fifteen hundred* dwarf pears—though he has not as much faith in dwarfs as in standards.

He has now on his trees a full crop of Bartletts, Louise Bonnes and F. Beauties, with a smaller crop of D. d'Ete, Rostiezer, Lawrence, Seekel, B. Lucrative, Vicar, etc. This fruit will be sure to sell for high prices this year, in the absence or scarcity of peaches and grapes.

Mr. Ohmer's Bartlett and Vicar pears are noted for their fine size, color and excellence. His Vicars especially, ripening up so finely at Christmas time, sell at very high prices in city markets, and he counts it one of the most profitable varieties. His soil is a good strong loam, resting on limestone, and the situation quite elevated, not requiring drainage.

Another successful pear orchard is that of Mr. A. Fahnestock, near Toledo, consisting of a thousand standard trees, planted ten years ago, and embracing the leading market varieties. These also are bearing a fair crop of fruit, especially the Bartletts, and have done so for several years past, with almost no losses of trees from blight or any

other cause. The soil of this orchard is flatter and more clayey than Mr. Ohmer's. It was well underdrained before planting. The trees have grown very finely, and, being trained to branch low, they are now perfect pyramids in form, averaging about fifteen feet high, and as many wide at the base. He attributes his exemption from blight largely to the form of his trees, the tops affording shape and shelter to the trunks.

Speaking of pear trees, I will add a hint or two for Western Nurserymen. It has long been the prevailing opinion among tree dealers and planters that pear trees cannot be grown as successfully in nurseries in Ohio and the more Western States, as in those at the East, and persons desiring first class standard trees must procure them from Western New York. I confess that my own experience at a Columbus Nursery, for the ten years that I was there, accorded with this opinion. But on visiting that establishment a short time since, I was surprised to find large blocks or squares of as fine standard pears, two and three years old, as I have ever seen at Rochester or Geneva; and, as evidence of the growing demand for the trees, I was told that the number of pear trees, of different ages, on the grounds, was not less than six hundred thousand; the demand every year increasing, especially at the West and South.

How It Is Done.

In answer to my inquiry, how such handsome pear trees were produced, I was told by the proprietor, that the secret of his success consisted of four requisites: 1st. Suitable soil—good strong loam, not wet nor too dry, and that has not been previously used for trees; 2d. Deep and thorough preparation and enriching; 3d. Planting none but the largest and best of imported stocks, whatever their cost; 4th. Good culture and training.

He did not claim that there was any secret in the matter, but, in view of his remarkable success, I think that many of the Western Nurserymen may be profited by adopting his practice more strictly than they have heretofore done *Painesville, O.*

The Nursery.

Propagation and Culture of Evergreens.

Samuel Edwards before Eastern Iowa Horticultural Society.

As a general rule, it is far better for inexperienced persons to buy plants than to attempt growing them from seed. The constant watching and care required until woody fiber is formed, will seldom be given except by those who make a business of it.

The soil of seed beds should be composed largely of sand and well rotted leaf mould or soil from the forest. It should be deeply spaded, and well pulverized; it is desirable to have this done in the fall, that the seed may be sown as soon as the surface of the ground thaws in the spring, or even before, if sand is laid by in the cellar for covering to the depth of twice the diameter of the seed. Four feet is a convenient width of seed beds. The seed is sown broadcast at the rate of two-thirds of a pound to the rod in length of bed, for seeds of the size of Norway Spruce, Scotch Pine, and one and one-third of a pound of European Larch—the latter requiring the same treatment as evergreens.

Partial shade must be given. If only a small amount is sown, it is as convenient to have it a foot above the ground. Where there are several beds, it is best to elevate the shade high enough to permit standing erect beneath it. Brush or corn stalks may be used for the shade. If the weather is dry, occasional waterings must be given.

Mice and other small animals are exceedingly fond of the seed; birds devour both seed and young plants, requiring constant watchings; guns, traps and poison are often used to prevent their depredations.

If the plants are not far enough advanced to have woody fiber formed before hot weather, the dampness and heat causes a rotting off at the surface of the ground. By a liberal sowing of dry sand this rotting off is arrested.

At the setting in of winter, cover the beds with an inch of leaves. It is well to give this protection two following winters. Two years seedlings are, if well grown, of size to transplant to beds in rows a foot apart, six inches in the row.

Considering it an invaluable protection from loss by drouth, I always puddle with clay mortar, roots of all evergreens when transplanted. Plants remain two years in these beds, at which time they are removed to the nursery, and put in rows two and a half feet apart, or if intended for ornamental planting, set them wide enough to allow free exposure of limbs; if for the forest, set close to induce rapid upright growth. After two years alternate rows can be removed, and it is advisable to root-prune as often as once in two years, with Harkness & Overman's tree digger.

To avoid injury or loss from drouth, always plant deeper than trees grow; press the dirt very firmly about the roots. Mulching is always advisable; never use any animal manure unless well rotted. Annual mulching is preferred to any cultivation. The losses attributed to severity of winter, recently, but in my opinion occasioned by drouth, would have been prevented by heavy mulching.

Arbor Vitæ, and many of the Junipers, are easily propagated from cuttings six inches long, planted two-thirds their length in the ground; sand at the bottom, press firmly at the bottom, and after treatment shade as advised for seedlings. There is no liability of loss by damping off. Latter part of May or early in June, is the proper time for planting.

Roses.—The Rev. S. Reynolds Hole, than whom there is no better judge nor more devoted admirer of the Rose, says that for cultivation under glass, *Souvenir d'un Ami* with its broad blushing petals and lustrous leaves; and *Maréchal Niel*, in its golden beauty, symmetrical form and exquisite fragrance, are specially and invariably beautiful.

New Rare Plants.

Double Poinsettia.

OF the new Poinsettia, which has made its appearance in our American greenhouses, Mr. Robert Buist thus writes the *Gardener's Chronicle*: "I call your attention to a new Double Poinsettia. It is a towering bunch of crescent-formed bracts, at least ten inches high, and as many wide, which will, no doubt, when in the hands of expert cultivators, be grown to eighteen inches high, and as much in diameter. Such crowns, upon well-grown plants, will surpass everything now known for table ornament, conservatory decoration, or the manipulations of the bouquet maker. On a recent tour through the grounds of Mr. Isaac Buchanan, the millionaire florist of New York, he drew me towards two plants of familiar outline, but on inspection I discovered a plant entirely new to me. "Is this the Double Poinsettia?" I asked, "It is, and I paid \$1,000 in cash for it," was the reply. The saddle-like foliage has a more graceful outline than the present Poinsettia; the newer, of deeper purple; the petiole (foot stalk) has two erect stipules of about a quarter of an inch high, surmounted by two glands.

Centaurea Americana Hallii.

Florets of a deep Magenta purple; the flower heads are very large, measuring when expanded, fully four inches across. In light soil the plant grows from 2½ to 3 feet high. Leaves, or the flowering branches, are ovate-lanceolate, sessile, and comparatively small while the color of the flower-heads is very rich before full expansion takes place. Has just been introduced into England, by W. Thompson, of Ipswich. Originated in Texas, and is considered by English florists not only first class, but much superior to the type.

Plants in Garden Vases.

An Agave, or a Yucca planted in a garden vase is always suitable, and requires no special care or management. Harper's Bazar

recommends that the space between it and the vines be filled in with Echeverias, Sedums, stone crops, or fig Marigolds; another vase may be planted entirely with scarlet geraniums; a third with the *Amaranthus salicifolius* in the center, surrounded with coleus; a fourth may have a Fuchsia in the center, surrounded with a medley of Petunias, Begonias, Phlox Drummondii, Perilla, Centaureas and similar plants. Some may have the outer edge planted with drooping plants, such as Moneywort, or Ivy, overhanging the vine. "In fact the whole class of what are known as bedding out plants, are admirably adapted for this purpose, and elegant combinations of colors and contrasts of foliage can be so arranged as to display the taste of the owner.

If planted in the autumn with Crocuses and Hyacinths, early spring flowers can be had before the season arrives for planting them with the more tender bedding out plants, so that a continuous display of floral beauty can be had from April until October or November; all that is required is that the vase should be filled with good rich garden soil, to within an inch or two of the top and the plant then inserted; all that they will then require, will be to have the inch or so of space filled up with water every evening during the hot summer weather, but never round up the center of the soil, as it then sheds the water and the center plants are liable to perish from drought."

Dracena Formosa.

This is remarkable for its fine spreading habit and gracefully curving leaves. It comes from the Feejee Islands. The leaves are numerous, narrowish oblong, or linear-ligulate, much elongated, about one and a half feet long and two inches broad, spreading widely, so that young plants are broader than high; they are tapered off at the apex, and narrowed into a channeled stalk-like base four and five inches long. The older leaves are of a bronzy purple color, but the younger central leaves in well-established plants are margined, and more or less freely

ornamented with broad rosy pink stripes, or become wholly of the same rosy pink hue, which deepens into a full rosy red. Its free-growing and spreading habit will render it a useful plant for decorative purposes. It has received a Certificate from the Royal Botanic Society.

Dracæna Imperialis.

A South Sea Island *Dracæna*, and one of the most beautiful which has yet found its way into our plant stoves. The variegation is in this case of a clear white combined with deep rose, and is most effective. The leaf-stalks are about four inches long, and marginate. The blade is narrowly elliptic-oblong, tapered at the apex, and narrowed into the marginate petiole. The color is a deep sap green, breaking out freely in the young leaves into white, which is most prominent near the base of the leaf, and extending upwards irregularly. These variegated portions take on, as the leaves gain age, a deep bright rosy tint, so that in the leaves of different age the rosy hue is variously blended with the white. It is a remarkably fine plant, quite an acquisition to our choicest collections of stove plants. Introduced in London by E. G. Henderson & Sons.

Odontoglossum Roezlii.

A strikingly beautiful New Grenadan epiphytal Orchid, allied to *O. vexillarium*, and *O. Phalenopsis*. It has oblong-compressed pseudo-bulbs, and linear-ligulate leaves, the peduncles supporting several large flowers, which have oblong-ligulate sepals, similar but rather wider petals, and a broad cuneate-flabillate bilobed tip. The color is pure white, the base of the petals being purple, and the base of the lip furnished with yellow crests and rich brown streaks. It is a free-flowering plant, which no collection should be without. It was awarded a First Class Certificate by the Royal Horticultural Society, in December, 1873. Introduced in England by William Bull.

Campsidium Filicifolium.

A free-growing slender woody climber, from the Feejee Islands, and referred doubtfully to *Campsidium*, from the analogy of

its foliage. It has opposite imparipinnate leaves, which are about five inches long, including a petiole of one inch, and consist of nine pairs of leaflets, which are small, ovate, deeply cut into two or three lobes on each side, the larger lobes being sometimes also toothed. The leaves, from their size and form, are strongly suggestive of fronds of some small-growing pinnate Asplenium, *A. viride*, for example. The growth and general character of the plant is so elegant that whether cultivated as a small pot-plant, trained on globular or other trellises, or planted as a climber, it has a most charming and engaging appearance. The flowers are as yet unknown.

Cyathea Burkei.

This fine greenhouse tree fern is a native of South Africa, whence it has been imported. It has stoutish stems, five to six feet high, and shaggy with dark-colored rootlets. The fronds, which are large and drooping, are of an herbaceous texture, bipinnate, the pinnules lanceolate acuminate with oblong-ovate obtuse segments, which are rather sparingly soriferous. The dark mahogany-colored stipes, and main rachis are studded with short obtuse raised points, which renders them rough to the touch. The drooping habit of the fronds gives this plant a very ornamental character. It was awarded a First Class Certificate by the Royal Horticultural Society, in June, 1873.

Cyathea Dreyei.

This also has been imported from South Africa. It forms a fine greenhouse tree fern, with bipinnate fronds of stoutish texture, and having the pinnules lanceolate, with oblong-ovate falcate segments, bluntish at the point, and having the sori in the lower half immersed in rufous wool. The trunk grows from three to four feet high, and the stipes and rachides are of a reddish brown, without the tubercles or blunt aculei which distinguish *C. Burkei*. It is a distinct and desirable addition to our cultivated tree ferns; and was awarded a First Class Certificate by the Royal Horticultural Society in June, 1873.

Editor's Portfolio and Notes

Scene in West Laurel Hill Cemetery.

In the Frontispiece is depicted one of the most attractive scenes, which are characteristic of Philadelphia's famous cemetery. Celebrated equally with Mt. Auburn, near Boston, or Greenwood, near New York, it shares a national reputation for its beauty of adornment, its size and location. It is situated on a sloping hillside, fronting the Schuylkill river, a little northward of the city. The ground was originally divided into three sections, north, south and center Laurel Hill; but demand for space has overflowed all accommodation, until a new tract has been added—West Laurel Hill Cemetery, which alone contains 110 acres.

In the immediate neighborhood are other smaller cemeteries, with cultivated rural aspect: Monument cemetery, which is somewhat notable, from the fact that it contains a fine granite monument to the memories of Washington and Lafayette. Also, Mount Peace, Mount Vernon, Glenwood, Mount Moriah and Woodland, are each of great beauty and located in the suburbs of the city. The Laurel Hill cemeteries are located, so as to be forever free from the disturbance of ever-increasing city buildings and city streets. They are beautifully planned, laid out, decorated and ornamented with trees and shrubs, which, interspersed among the monuments or statuary, afford a feast to the eyes of any lover of rural taste.

Complimentary.

I am delighted with the number of the HORTICULTURIST just received. It seems to me it never was so attractive, and full of good things as now. Shall not try to do without it again. Mrs. Dr. E. B. HOLMES.

I congratulate you on the great improvement made in the HORTICULTURIST, in both matter and style. It must be entirely satisfactory to the most fastidious. Success to you!

P. BARRY.

Rochester, N. Y. February 20, 1874.

A Miniature Rose.

I send you a flower bud of my new dwarf rose, *Maiden Queen of Lilliput*. The bush is $2\frac{1}{4}$ inches high, by $2\frac{1}{2}$ broad. Quite double and perpetual. The bud sent is full size, and expanded would be less by half, than any variety I know. How can I propagate it?

W. A. WHITFIELD.

Shieldsboro Bay, St. Louis, Miss.

Flower Growing in Olden Times.

In certain towns in the west of England, the annual flower show is made the occasion for street decorations, and prizes are offered for the best means of accomplishing this end. When the new docks and harbor of Flushing were opened by the king of Holland, the authorities offered the sum of ten guilders as a reward for the most prettily decorated house, and the prize was eagerly competed for by the residents of the lanes and alleys, as well as by those of the main streets. Every thoroughfare in the town was planted throughout its whole extent with fir trees, which were linked together in a tasteful manner with evergreens, the effect being further heightened by the aid of artificial fruits and flowers as well as ribbons of various hues.

Triumphal arches were raised at the more important points, and flags streamed gayly in every direction. When will we ever see a floral excitement like this in an American village?

The Early Beatrice.

The Beatrice is the "*coming Peach*." The Hale was just right when it was introduced, ripened two weeks before everything else—now comes the Beatrice, three weeks before that, and by and by some genius will invent one which ripens a month before—we get up. However, Mr. D. S. Myers, of Bridgeville, Del., says it is "the thing."

Fruit was shipped from the original Beatrice orchard as early as June 25th, that the trees are very productive (though the fruit is rather small), handsome and entirely free from rot. They carried well—reached New York in good order, and sold at \$4.50

to \$5 per box, with one crate at \$8. The price averaged \$1 per crate more than any other sort. What a fine chance now for any one with trees to sell!

Fruit vs. Fevers.

A striking instance of the value of the use of fruit in warding off fevers, incident to "ague countries," is given in the case of a family who moved from the East to the West, and who carried a large quantity of dried fruit with them which was used pretty freely all the summer, and none fell sick, although almost all new comers have generally suffered the first year. In the second year, with their fruit all gone, the family succumbed to the usual fevers of the district. We can recall from our own personal observation several instances similar—one is that of a young man who went from a home in northern New York to a new one in the Delaware peninsula. Unusually fond of fruit, and with the greatest abundance around him, he ate freely, and during a residence of six years in a section once famous for its "*chills and fever*," he has defied all prophecies, and never yet has suffered the first attack. It is also a matter of common remark that with those families who have engaged in the culture of fruit, who have eaten it freely, who have given up the old fashioned diet of salt pork, that the "*chills and fever*" have left them and they are blessed with almost entire exemption from any similar ill. It seems to be a good axiom, well fortified, that "*plenty of fruit to eat makes small doctors' bills.*"

Large Trees.

Since we made mention, some time since, of a few grand old trees, other journals have been hunting up some "big ones," within the circle of their knowledge. *The London Garden* says there are a few very large trees growing at Longleat, among which are a horse-chestnut fifteen feet seven inches in circumference five feet above the ground; a specimen of *Salisburia* sixty-three feet high and six feet in circumference five feet above the ground; and a Yew, about 120

years old, which is fifty feet high, with circumference of stem thirty-two feet a foot above ground, and a diameter of head about fifty feet. A tulip tree is also described 100 feet high, and eleven feet six inches in circumference five feet above ground. A tulip tree was measured by J. J. Thomas, many years ago, growing near Cayuga Lake, which when cut measured 124 feet high, and by counting the annual rings, found it was ninety years old when America was discovered.

Succulent Plants.

Prof. George Thurber, president of the Torrey Botanical Club, of New York, advocates increased attention to succulent plants, one of which in particular is warmly commended—the "*Variegated Ice Plant.*" It is a dwarf, of trailing habit, with creamy white foliage, and is exceedingly valuable for bedding purposes.

The *Othouna crassifolia* is said to be remarkably attractive as a basket plant, the long slender stems, with their fleshy leaves, presenting a pretty feature when drooping over the edge. It is a rapid grower, was tested the past season as a bedder, or carpet plant, and is considered admirably suited to the purpose.

Decorating Public Dinner Tables.

The English are far ahead of us in the liberal use of flowers at public gatherings although in some of our private parties or wedding receptions, the Americans are often exceedingly lavish.

At a recent dinner in London, at the Inns of Court Hotel, the great hall of the hotel was most tastefully arranged with floral decorations. Thousands of flowers and plants were employed, all fresh, healthy, and charmingly arranged in an artistic manner.

Dishes were filled in pairs to match, with white, pink and scarlet; the upper part of the dish was scarlet *Geranium*, with crowning masses of *Geranium Christine* (pink), resting on *Lycopodium Denticulatum*. The lower part or base of each stand had its

bed of Lycopod, with here and there magnificent blooms of Marechal Niel and other grand roses, interspersed with Lilies of the Valley.

The decorator who supplied these flowers, pays upwards of \$2,000 annually for cut blooms of these varieties of Geraniums, and \$3,500 a year for *Lycopodium Denticulatum*.

Profits of Grape Culture.

Although the profits of grape growing have steadily declined during the past five years, and many discouraged cultivators are yearly giving up all interest in the subject, yet there are occasional examples of local success.

One grower, three miles from Washington, D. C., planted in the spring of 1866, 1,000 vines, one-half of them Concord, the others of various kinds. The third year he built a trellis, trained the vines, and allowed some to bear as much as 15 lbs. each. All the fruit was sold for 15 cents per lb. As his vines came more into bearing, prices steadily declined until, in the fifth year, they were but one-half the prices of the first year, yet his produce was so heavy, the vines netted him \$70 per acre.

Starving Pear Trees.

We never yet knew any way to make pear trees bear, but to feed them well and take care of them, but even too much of this brings the blight, especially on naturally rich ground. To escape this blight, some growers take the other extreme, and recommend starving them. Mr. George Hussmann, of Missouri, takes this ground, which we think sorry advice for all parts of the United States. It might answer for the rich soil of Missouri, but not for the Eastern States.

Mr. H. says he has been growing pears for twenty-five years. When he commenced he had pears on rich land and cultivated them highly; they grew fast, and as soon as they commenced to bear, commenced to blight.

"I looked into the matter carefully and thoroughly, and soon became convinced that,

in order to raise pears successfully we must *starve* our trees; and the next pear orchard I planted and cultivated with this end in view, and I succeeded, and one of the regrets of my life is that I ever disposed of that orchard. It is a permanent income to the present owner. It consists of 900 trees, 300 dwarf and 600 standard for market, and some 150 specimen trees for experiment. My trees were selected and grown with low heads. In this way a standard will bear as early as a dwarf, especially on poor soil. Standard Bartlett's will bear the second year from planting; Beurre Bose and Flemish Beauty the third, and nearly all the fourth year. Choose poor soil, plow deeply, get your trees with low heads, plant carefully, and give very little cultivation and no manure, and you need not apprehend much, if any, damage from blight."

We have a pear orchard planted on light soil, yet we find it pays to manure them well with *bone, lime, ashes, muck, etc.* None of these fertilizers will ever induce blight. No pear grower should neglect giving his trees good nourishment. The starving process is a failure at last.

American Pears in London.

Specimen pears from the famous pear orchard of G. F. B. Leighton, Norfolk, Va., were sent the past season to London, England, and exposed for sale in Covent Garden market. They were pronounced equal, both in size and flavor, to the same kind of pears imported from France. They weighed from 16 to 21 ozs. each, and measured $14\frac{1}{2}$ inches in circumference.

Printers' Ink.

Some of our readers may remember that four or five years ago the claims of printers' ink as a protection against the canker worm were very generally and thoroughly discussed in all the Eastern Agricultural papers. Since then the subject seems to have dropped and become remarkably quiet. In the meantime its friends have not been idle, and with faith inspired, and faithful in works, have kept at its constant use. We

have now some positive testimony from a very authoritative source, which cannot be disbelieved, in favor of this article, and we think it should be made widely known.

Mr. Pratt, Superintendent of the Public Grounds at Concord, Mass., has for the past three years had charge of the noble Elms which line the streets of the ancient and historic town. He has experimented carefully with printers' ink, by applying it in various ways to the fruit trees, sometimes directly to the bark, then by daubing tarred or brown paper and winding that around close to the ground. He has found it completely effectual, and has had best success by merely smoothing the rough bark slightly with a drawing shave, and then spreading the ink directly upon the shaved surface.

It does not injure the tree, and is not only much faster put on, but more efficacious even than the use of the tarred or sheathing paper, for there is then left no hiding place for the moth.

The slightest contact with the ink is death to the insect.

After using the ink upon all trees, large and small, Elm and Apple, without any paper, and for a period of three years, he sees no injurious effect on any tree.

Plants for Hanging Baskets.

Why will writers persist in recommending the *Coleus* for hanging baskets? We think it very unsuitable, yet we see it almost invariably spoken of. It is too tall, requires a hot place, while most of the plants in the basket, such as ferns, etc., are lovers of cool, moist earth, and even partially shady situations. The *Coleus* is very fine for an open, standing basket, but never for a hanging one. No plant of high upright growth, say over one foot, should be used, yet we see *Fuchsias* and *Geraniums* universally approved. Such plants as *Lobelias*, *Ivies*, *Linaria*, *Vincas*, *Ferns*, *Sedum* and *Begonia* are all very suitable. *Carnations* only look best in open standing pots. The use of moss placed over the top of the earth in the basket is a capital plan for retaining an even moisture in a dry, hot room.

THE HORTICULTURIST is always welcome and read with unusual interest. Every paragraph it contains is readable and interesting, and to fruit-growers, gardeners, florists, and every style of horticulturists, it is a treasure, constantly advancing and improving in matter and finish. It leads the host of horticulture, and is the oldest and best in America. — *Utah Pomologist and Gardener.*

Starring Pear Trees.

Since writing a previous paragraph on Pear trees, on this very subject we have met with a little capital advice given by Shirley Hibberd, of the *London Gardener's Magazine*, to an inquirer who asked why his trees and fruit did not thrive. He tells him that his trees and fruit are shrivelled by root pruning, and then adds—"you had better burn Mr. Rivers' books, forget all you have read about root pruning and pinching and other starving processes, and lay a foot deep of fat stable manure over the roots of the trees at once. The trees have been trying hard to do you good service, and in your light soil want help, and, as regards roots, they cannot have too many."

A Fine Horticultural Library.

The Massachusetts Horticultural Society have, we suppose, the best collection of agricultural and horticultural books of any institution in the United States. At considerable expense, a complete catalogue has been prepared and printed, a copy of which we acknowledge the receipt.

Rural Felicities.

Vegetation at Bethlehem.—Cornfields and vineyards creep along the ancient terraces. In the spring, the hills and valleys are covered with thin grass, and the aromatic shrubs, which clothe, more or less, almost the whole of Syria and Arabia. But they also glow, with what is peculiar to Palestine, a profusion of wild flowers, Daisies, and a white flower called the *Star of Bethlehem*; with a blaze of wild flowers of all kinds,

chiefly *Anemones*, wild Tulips and Poppies. Of all the ordinary aspects of the country, this blaze of scarlet colors is perhaps the most peculiar, and to those who first enter the Holy Land, no wonder it has suggested the tempting and significant name of "*The Saviour's Blood Drops*."

* * * The "hill country," as it is called, of "Juda" in earlier, or "Judea" in later times, is the part of Palestine which best exemplifies its characteristic scenery. The rounded hills and broad valleys; the scanty vegetation; the villages and fortresses, sometimes standing, more frequently in ruins, on the hill top; the wells in every valley; the vestiges of terraces, whether for corn or wine

* * * Here, more than elsewhere are to be seen on the sides of the hills, the vineyards marked by their watch-towers and walls, seated on their ancient terraces, the earliest and latest symbol of Judah. The elevation of the hills and table lands of Judah is the true climate of the vine. STANLEY.

Botany Made Easy.—An excellent specimen of the crack jaw tongue is found in the (English) Charterhouse examinations for 1873, under the head of botany, where the scholar is told to explain the following terms: "*Malva* has a gamosepalous calyx, a polypetalous hypogynous corolla, polyandrous monadelphous epipetalous stamen, and a superior syncarpous pistil."

Botany Misapprehended.—The Norristown (Pa.) *Herald* says that a man in Lower Merion wrote to the editor of a horticultural journal and asked "What are the most advantageous addition to dried grasses, for winter ornaments?" The editor replied—" *Acroclinium roseum*, *A. alba*, *Gomphrena globosa*, and *G. globosa carnea*." When the Lower Merion man read this he fairly boiled with rage, and immediately sent a note to the editor ordering his paper to be discontinued. He said no editor who

swore that way, just because he asked a simple question, should have his support.

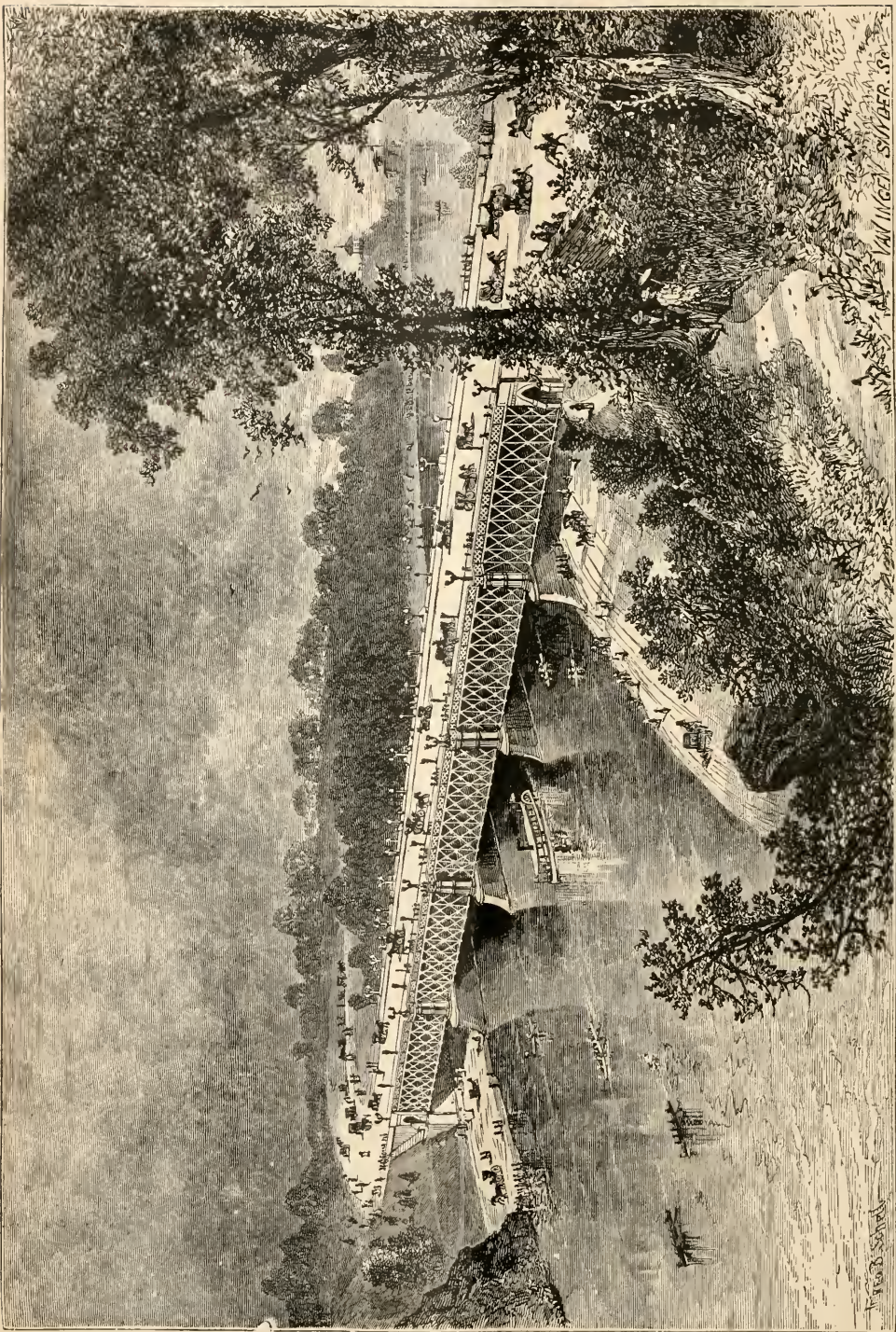
Pet Toads.—The Rev. J. G. Wood, that excellent naturalist and charming writer, has a trough fitted up for his children full of tame toads, each of which answers to his own particular name, and comes when called. The children carry them round the garden and hold them up to any insect they may chance to fancy, to enable them to swallow it, which they do by a lightning flash of their glutinous tongues. Even more, their tender care for these unlovely pets is so great that they bathe and kiss them daily, just as they themselves are treated by the nurse.

Upon one occasion, one of the children, who had received an orange, was seen with her own special toad seated on her hand partaking with his mistress of the orange, in alternate sucks and bites. From the experience so gained, Mr. Wood declares the toad to be more quickly and easily tamed than most other animals. So that its disposition seems to be as devoid of venom as its physique.

A Happy Custom.—In Switzerland there is a law which compels every newly married couple to plant six trees immediately after the ceremony, and two on the birth of every child. They are planted on commons and near the road, and being mostly fruit trees are both useful and ornamental. The number planted amounts to 10,000 annually.

Wanted.—The address of every person, having a greenhouse or conservatory, in the United States; also, the name of every gardener and florist.

Will our readers send us list of any names of their acquaintance. We wish to send a specimen copy of THE HORTICULTURIST to all such.



FAIRMOUNT PARK, PHILADELPHIA.—BRIDGE ACROSS THE SCHUYLKILL.



CORRESPONDING EDITORS :

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The Greenhouse.

Greenhouse for April.

NO time must now be lost in propagating and potting any plants which may yet be short for planting outside during the month of May; for small plants but recently removed from the close, moist air of the propagating house are very unsatisfactory plants to expose to the hot sun and drying winds we generally experience at that season; and well established plants will not only give a more immediate good effect, but will usually require less attention during the summer.

Verbenas.—Keep Verbenas as cool as possible, with abundance of air, be careful the plants never suffer from want of water; it is often necessary to water them more than once a day at this season; neglect in this matter we believe is often the cause of rust, about which many growers complain. We give our verbenas a moderate fumigating with tobacco once each week as a preventive to green fly; if this has been neglected and the fly has established

itself, give the house a fumigating three nights in succession, to insure the death of every one, for if a few escape the plants will be smothered in a few days after planting out, and be so much checked that a satisfactory growth cannot be expected. There is no advantage in having very large plants of verbenas for bedding out if they are stiff and well rooted. We prefer a plant of about four inches in height, from which the point has been pinched a week or two previous to planting out. As regards varieties, they are so numerous that it is impossible to describe them; we usually add a number of the so-called new varieties to our collection, annually, for trial, but usually find by the end of the season very few standard improvements to add to our list. The main points required in bedding verbenas are, clear and decided color, large, full truss of bloom, free bloomers and growers, and good habit of growth. Many excellent varieties for cutting for show flowers are not at all suitable for flower garden decoration.

Coleus.—Now is a good time to propagate Coleus for bedding; the cuttings will root in a few days and make good plants by the time

they are required for bedding. We have a very numerous list of these plants to select from, but there are but few which are thoroughly satisfactory for planting outside; some of the varieties will not stand sun satisfactory, and others are not decided enough in color. The old *Verschaffeltii* is good under all circumstances and is yet the most telling of all; and We have not seen any of the golden edged varieties surpass *Princess Royal*. Of course there are many other golden edged varieties which may be as good, but this we have tried with others in all positions and it was satisfactory. In positions where the various shades of black and brown are desirable, we have plenty to select from, all more or less satisfactory, but it is generally preferable to neutralize with shades of green when possible, than to introduce mourning into such a lively spot as the flower garden. The *Coleus* being such a fast growing and easily propagated plant, it is well to try any new varieties when they appear, for nearly all are worth growing as pot plants, to fill up a gap inside at any time during the summer; they require but little attention besides abundance of water, and are also useful to make a show at the autumn State fair.

Ornamental Foliaged Plants.—Sow at once a few seeds of Castor oil plant, and the desirable varieties of *Amaranthus*; *Salicifolius* is not satisfactory in all cases, but grand when it does well; it should certainly be tried. *Huttoni* was not at all satisfactory with us as a pot plant, not being showy enough, but it might be useful as a border plant, the color being better than many dark shades among *Coleus* and *Perilla*. The above mentioned seeds should be sown in heat, potted and hardened in a cool house before planting outside, at the end of May.

Gloxinias.—If not already done, *Gloxinias* should be taken out from old soil and potted in smaller pots and placed in a good heat. When in growth these plants require shade from bright sun and must not be wet over the foliage, also require careful watering; if allowed to get very dry and kept in a dry atmosphere, a small

species of thrip is troublesome and spoils the foliage; it is very difficult to destroy, the woolly foliage being a capital hiding place and the plant cannot be syringed. Heavy fumigation also injures the plants; the only way to prevent its appearance is by careful cultivation.

Achimenes will be already started into growth and should be potted, several plants in small pots or large numbers into shallow pans. If large masses are required, a light open soil of peat, leaf soil and sand placed lightly into pots or pans suit these plants best, with same treatment as *Gloxinias*. The *Achimenes* are capital summer basket plants; in fact, while they last, make more show than any other plant I am acquainted with, but to realize their full beauty the basket must be large and suspended high enough to walk under it; for this purpose any wire basket will do; even a common ox muzzle for a small basket. The only preparation the plants require is to sow the tubers in shallow boxes of light soil, and when the shoots are about three inches high they are ready for filling the baskets, which is a very simple affair. Have a heap of soil and a quantity of moss in readiness; commence by covering the bottom of the basket with moss, to prevent the soil falling through; place a portion of soil at the bottom and lay a row of plants all round quite thick together; commence building moss around sides, fill in with soil, place another row of plants, and so on until the basket is filled with soil and the shoots surround the outside; fill the top with plants as if filling a pan, give it a good watering and it is complete. Keep in shade for a few days and then suspend in full sun. The plants will grow and commence to flower in a few weeks, and last in full beauty for a long time if kept well watered, and when in full growth will be grand. We had a number of these baskets in the Victoria House, and also in the large conservatory at Chatsworth, which were finer than any seen elsewhere; these were a ball of flowers about six feet in diameter, and were replaced by baskets of *Epiphyllum* and other plants in the winter.

Dahlias.—If desirable to increase dahlias by cuttings, do so at once; in a brisk heat they will root in a few days and be established by planting-out time. We consider the dwarf varieties the most desirable; the plants flower earlier and more abundantly, and the plants do not require stakes to prevent the wind breaking them; but of course when exhibition flowers are required, the size of plant and abundance of bloom is a secondary consideration, as the buds are usually trimmed to a small number, and there are not sufficient varieties among the dwarfs to make up a collection for competition.

Canas.—If canas are required to be grown on in pots previous to planting outside, no time should be now lost in potting. See there are plenty of *Echeveria*, *Sempervivums*, *Cotyledons*, and others of that class of plants in readiness for bedding out next month; many varieties of these plants are comparatively hardy, and if desirable can be planted out early in May, or if room in the house is required, and it is considered best to make a general planting out all at once—which is the best plan in small gardens—the above plants can be placed in cold frames until required.

When forced flowering plants, such as *Deutzias*, *Spiræas*, *Lilacs*, *Tulips* and *Hyacinths*, and others of that class, have finished blooming, remove them at once, to be replaced by others to succeed them, which have been reserved to succeed those advanced in heat; it is seldom necessary to give these plants extra heat after this time, for they will flower in a short time with the ordinary temperature of a cool greenhouse; and if shaded, the flowers are finer and last longer than when forced into flower in a high temperature. The hardy shrubs can be placed in a cold frame for a time, and then planted out in open ground to be taken up again for the same purpose; it is best to have a few young plants of these things coming on to take the place of overgrown and exhausted specimens, which can be thrown away or planted permanently in open border, as the case may be.

Tulips and *Hyacinths* are seldom of much use after once flowering in pots, except to

plant as border plants, so it is fortunate that the price of these bulbs are moderate. Any Ferns requiring larger pots should be potted at once; see the plants are not dry when potted; these plants all do best shaded from sun after this time—in fact, a house with a north aspect is best for Ferns, and also for *Camellias*, and for keeping plants in flower for the longest time; but of course these plants can be grown in any greenhouse.

Pelargoniums.—Show and fancy *Pelargoniums* will now commence flowering, and will require abundance of water; a little guano water after the buds are formed is useful; do not use it earlier—the plants produce more foliage than flowers. These plants are not so fine in this country as in England; the weather is too hot and the sun too bright for the flower to last any length of time; for this reason it is desirable to grow the early flowering varieties; a good addition to these is *Gloire de Paris*; the fancy varieties are not much grown in this country, probably from the fact that the plants import badly, and also suffer much from the hot weather; but they will stand a much higher temperature during winter without getting drawn; then the show varieties and the plants are much neater, and when in full flower are very beautiful, even in small plants; but when grown as seen at the London exhibition, in May and June, with a level top from three to four feet in diameter, and such a mass of flowers that not a leaf is visible, they are magnificent; and it must be remembered these large plants are grown in eight-inch pots.

Fuchsias.—Give *Fuchsias* larger pots when required, the early plants will be commencing to flower; these, like *Geraniums*, should be in flower as early as possible, if required for flowering in-door, as the flowers and also the foliage drop quickly in very hot weather.

Azaleas.—The early flowered *Azaleas*, which have finished blooming, should have the seed-pods pinched off, and be placed either in a forcing house or warm part of the greenhouse, and well syringed two or three times each day to induce a free growth; see that the

ball of soil is not allowed to get dry, or the growth will be weak, and some of the plants will die; in fact, allowing the plants to get very dry is the cause of more deaths among Heaths and Azaleas than anything, besides it is astonishing the number of waterings required to soak through a thoroughly dry ball of roots; in fact, in some cases, it is difficult to moisten it at all, without placing the plants in a tub of water; it is especially so if the plants are grown in the light peaty leaf mould so generally used by the Belgian and German florists. We have soaked plants from six-inch pots in a tub of water for twenty-four hours, and then found the center of the ball dry; this was the case with fresh imported plants.

Camellias.—Any Camellias, in tubs or pots in which the soil is sour and roots poor, may be shaken out after flowering, and repotted into clean pots, with good drainage, and placed in a warm, shady part of the house, to be syringed frequently and kept rather dry at the roots until growing freely; they will usually make good growth and flower well the following season; but as a rule, it is preferable to pot Camellias as soon as the buds are set; but in the case of unhealthy specimens, the season is then lost; any plants grown too large, or out of shape, may be cut in as soon as the flowers are over; in fact, no plant stands cutting better than the Camellia, and it is necessary to use the knife freely when plants are in full vigor.

Palms.—See that Palms receive abundance of water, and if any of the plants are intended for planting outside in summer, they must be kept cool for that purpose, for the foliage is tender, and even the hardiest will suffer from the change; it is best, if possible, to prevent these making any young leaves until they do so in the open air; many varieties do well and are splendid plants for pleasure ground decoration, if prepared for that purpose; but when the plants are required for greenhouse decoration, and large plants are required as quick as possible, then no class of plants will stand more heat and moisture; and it is astonishing in how short a time a small plant will develop into a fine specimen; this magnificent class of plants have been neglected,

until recently, in this country, but in a few years they will be as popular as they have been in Europe for a long time, and will be employed at every grand display by every one of cultivated taste.

Ixoras.—Those cultivators who have a house kept at a temperature of not less than sixty degrees at all times, should grow a selection of *Ixias*; they are a beautiful class of tropical evergreen shrubs, which flower at all seasons of the year, and the plants, when well grown, are handsome when out of flower, but it is indispensable to grow them in peat. We never saw a satisfactory *Ixora* potted in loam; like most other hothouse plants they are liable to be infested with insects, but are worth all the attention required; these plants are standard exhibition plants in England.

Anthurium.—Another indispensable plant, even in the smallest and most select collection, is the *Anthurium Scherzerianum*; this plant is seldom without flowers; the same flower will last for three months; it is a plant of the easiest culture, and insects seldom trouble it; until recently it has been high priced both here and in Europe, but now it is cheap enough to suit any pocket. The ladies need not be frightened by the long name, for although the plant does not possess any English name, I have no doubt the extraordinary shape and brilliant scarlet color of the flower would suggest to many to name it the Flamingo flower.

Cape Jasmines.—See that Cape Jasmines are free from insects, or the beauty of the plants is spoiled; this is one of the plants, that if there is a bug, scale, or red spider in the house it is sure to find it out. A ready plan to clean these plants when at rest, is to mix up a strong dose of whale oil soap, about one ounce to a gallon of water and add about a large teaspoonful of kerosene to the gallon, and dip the plants in the mixture; work the shoots well about in the mixture to wet every part and shake off or lay on their sides to drain for one hour, and if thoroughly done, there will not be an insect left alive, and the plants will not be injured; if there are many plants to dip, it will be necessary to add a portion more

kerosene, as the oil floats on the water, and is skimmed off by the plants; of course care is required not to use extra quantity of kerosene, or it will injure the plants, and it is not safe to use it at all on many plants; but it is certain death to all insects. After the plants have drained for an hour, wash them well with clean water and the foliage will appear as if fresh varnished; this mixture must not be used when foliage is young and tender, but if thoroughly cleaned in the winter, it is seldom required at any other time.

Caladiums.—Do not forget to prepare a good stock of Caladiums, both for growing in pots for furnishing the greenhouse in summer, and also for planting outside at the end of May. These latter should not be exposed to a very high temperature; it is best to let them start in a moderate heat, for if the plants have a quantity of tender leaves, when planted out, those leaves will be scorched up and the plant have to make a fresh start; on the contrary, those for inside decoration are benefited by a good heat, if early growth is required; these plants are useful to occupy vacancies, when the hardier plants have been removed outside. We have often heard complaints that Caladium bulbs decay in the winter; this is caused by keeping them too wet or cold, or perhaps both; they should be preserved in a temperature of sixty degrees through the winter. We seldom lose one per cent, under these circumstances.

Varieties.—We will give the names of a few of the most desirable and distinct varieties for the benefit of those requiring a small collection. Of course the list could be extended to several times this number, but those we name we would grow ourselves if confined to a small space: No. 1, list for planting outside—Eseulentum, Albo-violacea, Wightii, Verschaffeltii, Sedonii, Alphonse Karr, Bataviense, Chantini, Bicolor majus, Javanicum, Mirabile, Meyerbeer. No. 2, selection of old varieties for pot culture—Alphande, Alphonse Karr, Amabile, Argyrites, Baron de Rothschild, Belleymeii, Bicolor majus, Bicolor picturata, Cannartii, Dr. Bois Duval, Hubianum, Md. Houlet, Meyerbeer, Pottshamii Rubronervium,

Triomphe de la Exposition, Raulini, Wightii. No. 3, a few selected new varieties—Prince Albert Edward, Maxime Duval, Jules Putseys, Alfred Bleu, Devineck, Duc de Ratibor, and Excellent. We have not, at present, found the yellow varieties, which were much praised in England when sent out, at all satisfactory, being poor growers, and the yellow will not stand the sun. The varieties mentioned are all good growers, and will stand the sun as well in this country as in England. Prince Albert Edward is a grand addition to the white-leaved section, having brilliant crimson veins and also clouded with the same on the white ground. Any old, rough plants of *Abutilon Thompsonii* should be reserved for planting out; they make a grand show during summer and can be lifted previous to frost. These will be found very useful for cutting large shoots during winter to mix in vases of cut flowers.

Look over large plants of *Aloes*, *Arundo* and other plants preserved in cellar, and remove them to lighter quarters at the earliest opportunity; such plants are best planted out early, for if they remain until the weather is warm they often commence to grow, and the growth made under these circumstances is weak, and sure to suffer when removed to light and air.

Saving Fuchsia Seed.—Mr. Cannell, the great Fuchsia grower, says: "When the seed pods are thoroughly ripened, partly dry them in the sun, after which cut them in halves and quarters with a moderately sharp knife, and minutely examine each part; the old self-colored varieties produce seed very freely, but the choice kinds very sparingly, particularly the light varieties. An abundance of hollow seed will be found, but good plump seed is about half the size of that of the Pansy, and is easily distinguished and picked out."

A Circle.—Make a circular bed with *Arundo Donax* in the center, next surrounded by *Abutilon Thompsonii*, next *Achyranthus Lindenii*, and outer edge with *Centaurea gymnocarpa*.

The Pleasure Ground.

Home Adornment.

NOTWITHSTANDING the course of THE HORTICULTURIST, especially during its earlier years, has been to give the greatest prominence to subjects of practical importance, yet it has never avoided those having for their object the cultivation of a pure and refined taste in rural pursuits. By this we do not necessarily allude to objects of an expensive and elaborate character, suited only to the wealthy, but to those more especially adapted to the wants of our readers who long for the simple, yet neat and appropriate decorations that can be fashioned and arranged by any one with sufficient taste.

The old-fashioned idea of bouquets has received a severe rebuke of latter years, and in no one thing has popular feeling shown a more marked improvement than in this. As formerly seen upon our tables during festive occasions, the huge "nose-gay" and "flower-pot," were in fact floral monstrosities, utterly at variance with the rules of good taste, adapted, as it were, to pander to the love for bright colors, without harmony of arrangement, and precise form without gracefulness. Fortunately for the advancement of a refining taste in floral decorations, as well as in other auxiliaries for gratifying the eye, popular opinion is gradually tending towards plain colors, and an easy, flowing, graceful outline.

The annual exhibitions held near London, as well as those in other parts of England, are now encouraging this advanced taste, by the offer of liberal premiums for the best example of "Table Decoration." The writer witnessed, in the Crystal Palace, at Sydenham, one of the most beautiful, although comparatively simple displays, that he had ever seen, and yet the whole exhibition was confined to a comparatively few tables, laid as if for the usual meals, and decorated with a few plants and flowers in the most exquisite manner.

In the center of each competing table was

placed a simple glass stand of some choice pattern, and neatly filled with the most slender, graceful vines and ferns that could be procured. The base was unusually flat and shallow, with the broad fronds of some handsome fern spread out, and extending for some distance beyond the outer edge. From the moist sand with which this is filled, springs up the taller plumes of a feathery species of grass, intermingled with those of a drooping habit; and in the interstices between are introduced the most delicate fern fronds to be procured, as well as some of the richly colored tropical leaves.

Around the bottom are placed a few pale tea-rose buds, and flowers not too marked in color, but possessing that indispensable quality, agreeable fragrance. At the summit is set a glass receiver also filled with moist sand, in which are placed very much the same character of plants as are seen at the base, with the addition, perhaps, of a few sprigs of smilax and other neat little vines to hang down and partially cover the glass stem.

This floral ornament composes the centerpiece; then on either side, and midway between it and the ends of the table may be noticed glass vases of a very light and unique pattern, in which are arranged a collection of flowers that harmonize in color, and give a quiet, subdued effect, but exceedingly tasteful withal. In front of each guest's plate is placed a tiny bouquet, a grade larger than the ordinary button-hole size, and this, too, should be neat and plain, the green being composed of one of the smaller *Adiantums*.

Here, it will be seen at a glance that everything is omitted that can in any way offend the eye; and, in fact, the whole idea is to make use of as little material as possible, but that little must be the best in its line.

When we contrast this system of forming bouquets with the antiquated pattern which continually reminds one of the great amount of thought requisite to place each individual flower with mathematical precision, we think no right-minded lover of flowers will be willing to go back to the "good old times" of bouquets at least.

To illustrate the fashion of the past age, we must remind our readers that the bouquet was arranged in circles, with each individual row composed of a different flower, and when accessible, these were of a distinct color as well, so that the *tout ensemble* was somewhat in the style of a zebra, or some nondescript article, not certainly found in nature.

The whole matter of arrangement may be summed up in a few words. The former idea appeared to be to distort nature, and give to her flora an artificial aspect; while the true aim and purpose of the modern florist should be to preserve the natural, and entirely abolish the artificial, so that the latter may not appear in any form.

Indeed, throughout the exhibition alluded to, the fact was continually apparent that all the competitors were endeavoring to raise the art to a higher and much more sensible standard, by the simple act of substituting grace for formality.

We have thus dwelt longer upon this subject than we otherwise would, were it not for the importance being attached to the business at the present time. The cut flower trade in all our large cities, is perfectly enormous, especially in New York, Philadelphia, and Boston, where thousands of dollars are annually spent in this branch of industry. In some localities, especially near the suburbs of our larger cities, may be seen acres of glass structures, used solely for the purpose of forcing flowers; and the dwellers in the city proper know very little of the gigantic proportion which this business has assumed.

Indeed, our florists, with scarcely an exception, are to-day devoting a large amount of space for growing cut flowers, who, a few years since would have thought it entirely beneath their notice. But finding that it paid, and that handsomely, they are annually increasing this department of their vocation.

It is the fashion for persons of a certain class to characterize this as a useless expenditure of money. Not so, however. It is one of the most able advocates for a better state of morals in society at large. Its tendency is to elevate and refine, whilst creating a distaste

for the gross and vile; and the tiny bunch of violets, purchased for a few pennies from the little girl on the street corner, affords far more pleasure to the buyer, than the same amount expended for any artificial ornament of whatsoever kind.

Is it not a pleasant idea, that the humble flowers may, in many instances, prove to be missionaries in a certain sense; awakening in the mind of many an erring one, visions of an earlier and better life, and recalling the oft quoted, yet ever sublime simile of the Great Master, "Behold the Lilies of the field." Let us trust so at least, for we should all be firm believers in the beautiful theory, that with the increase of a love for flowers, just in proportion will be the decrease in crime and immorality.

Ornamental Trees and Shrubs.

AT last meeting of the Western N. Y. Horticultural Society, lists of valuable standard, or new trees and shrubs, were submitted by various members, of which the following, accompanying Mr. Ellwanger's report, were recommended as most valuable, worthy of dissemination:

New and Rare Deciduous Trees.

Acacia viscosa bella rosea—Flowers delicate flesh-colored, fringed with yellow; fine dark foliage, and vigorous grower. A very desirable variety.

Alnus firma—A thrifty, medium-sized tree from Japan; foliage resembling a Morello cherry—very distinct.

Alnus incana luciniata—A very choice, beautiful variety; leaves deeply cut.

Alnus Japonica—A very distinct Japanese variety, with cherry-like foliage.

Pyrus malus carnea pleno—A beautiful variety, with flesh-colored double flowers.

Fagus quercifolia—Resembles the fern-leaved; distinct cut foliage; a dwarf grower.

Æsculus heterophylla dissecta—Leaves deeply and finely cut; a very novel and attractive variety.

Æsculus Memmingerii—Beautiful white spotted foliage, curious and ornamental.

Tilia red fern-leaved—Foliage deeply cut, the bark on young growth rose colored.

Acer, Wiers cut-leaved—A rapid grower, shoots slender and drooping, in habit about as graceful as the cut-leaved Birch—the foliage is abundant, silvery underneath, deeply and delicately cut—the leaf stalks are long and tinted with red on the upper surface. We believe it will rank among the most interesting lawn trees, and may be easily adapted to small places by an occasional cutting back, which it will bear to any degree as well as a willow.

Quercus pedunculata laciniata—An elegant tree, foliage deeply cut, one of the best cut-leaved trees.

New and Rare Evergreens.

Biota Semper Aurea—A new variety of the Aurea, which retains its golden tint the year round. So far it has proved hardy with us. A desirable acquisition.

Juniperus oblonga pendula—A native of Japan, of drooping habit, distinct and ornamental.

Juniperus Chinensis aurea—Young's Golden Juniper—This is no doubt the most distinct and beautiful of all the yellow or golden conifera, a vigorous grower.

Juniperus venusta—Foliage of a beautiful glaucous green color, erect and rapid grower. This is one of the handsomest Junipers we have seen.

New and Rare Deciduous Shrubs.

Deutzia crenata fl. alba plena—A very fine profuse flowering shrub—flowers pure white, fine and distinct.

Hydrangea Japonica alba—A charming shrub, flower of delicate rose color, changing to white.

Hydrangea Japonica macrocephala—Very large individual flowers, petals white, turning to rose as they acquire age.

Hydrangea Otaksa—Foliage of a beautiful deep green. The plant produces immense trusses of rose colored flowers in profusion; free-bloomer.

Lilac alba grandiflora—Very large pure white trusses. The finest white lilac.

Lilac Cornulia superba—Flowers light

purple in bud, but when fully open a clear blue; truss very large; the finest of its color in cultivation.

Lilac Ville de Traves—Dark purple; large panicle; fine.

Spiraea Fontenaysii—Vigorous and free bloomer; large panicles of white flowers.

Weigela Gustave Mallet—Red flowers; very showy; free bloomers.

Special reports on other subjects were presented, which we condense from the printed copy of proceedings, sent us by Mr. P. Barry, also from notes of the secretary, P. C. Reynolds.

Best Six Varieties of Hardy Roses, for General Cultivation.

Salet—a Moss rose,	La France,
Madame Plantier,	Prairie Queen,
Gen. Washington,	Coquette des Alps.

Best Twelve Varieties Roses.

In addition to the above list of six, the following were included, to make twelve:

Baltimore Belle,	Victor Verdier,
Madame Charles Wood,	Charles Lefebvre,
John Hopper,	Caroline de Sansal.

Best Twelve Deciduous Trees, for Lawns, Small or Large.

Magnolia Soulangeana,	Salisbury,
Horse Chestnut, — Double-flowering;	Thorn, Double Searlet,
Beech, Purple;	Willow, Kilmarnock;
Maple, Purple-leaved;	Beech, Cut-leaved;
Birch, Cut-leaved, Weeping;	Birch, Cut-leaved;
Alder, Imperial, Cut-leaved;	Virgilia Lutea,
	Mountain Ash, Oak-leaved.

Trees Worthy of Special Recommendation.

Cherry, Large Double-flowering;	Magnolia Speciosa,
Elm, Camperdown Weeping;	Magnolia, Chinese;
Linden, White-leaved;	Maple, Wiers Cut-leaved;
	Cherry, Weeping;
	European Larch.

Best Twelve Flowering Shrubs.

Althea, Double variegated;	Deutzia gracilis,
White Fringe,	Spiraea prunifolia,
Prunus Triloba,	Weigela Rosea,
Deutzia Crenata, fl. pl.;	Weigela Nova, variegated;
Japan Quince,	Purple Fringe,
Hydrangea, Paniculata	Almond, Double Dwarf
Graciliflora;	White.

Additional, Worthy of Favor.

Weigela, Hortensis nivea;	Lilac Joseke,
Spiraea, Ballardii;	Clematis Jackmanni,
Spiraea Reevesii, robusta;	Double Red-flowering almond,
Lilac, alba grande;	Mahonia Aquifolia,
Cornus Maseula, varieg'd;	Paul's New Double Red
Tartarian Horeysuckle,	Hawthorn,
Wistaria, Chinese;	Tree Peonia,
Calycanthus Floridus,	

Forsythii Viridissima,
Althea, Pannia;
Snowball,

Lilac, Cut-leaved;
Syringa, Double fl.;
Weigela Desports.

Best Six Evergreens for Small Lawns.

Juniper, Irish, robusta;
Arbor Vitæ, Tom Thumb;
Pine pumilio,

Pine, Cembra;
Arbor Vitæ compacta,
Juniper, Chinese.

Additional, Recommended.

Juniper, Golden,
" venusta,
" excelsa,
" squamato,
" Savin,
" pendula;
Arbor Vitæ, Siberian,
" American,
" pyramidata,
" Hovey;
Yew, elegantissima,

Rhododendron,
Retinospora plumosa au-
rea,
Thuja semper anrea,
Libocedrus,
Cypress Lawsoniana,
Arbor Vitæ, George Pea-
body;
Hudsonia, Dwarf Fir;
Maxwell's Dwarf Spruce,
White Spruce.

Most Appropriate Trees for Small Cemetery Lots.

Juniper, Irish;
Thorn, Cut-leaf;
Willow, Kilmarnock;
Birch, White Double-flow-
ering;
Deutzia gracilis,

Weeping Bird Cherry,
Magnolia conspicua,
Spiræa prunifolia,
Hydrangea paniculata
grandiflora.

In addition, the following were suggested:

Arbor Vitæ, Hovey;
" pyramidata;
Retinospora plumosa,
Salisburya,
Horse Chesnut, Double
white;
Calycanthus,

Cornus mascula, varieg'd;
Weigela nova, variegated;
White Fringe,
Buel, Young's New Weep-
ing;
Cherry, Dwarf Weeping.

We have devoted considerable space to the publication of these lists, because they are uniform and excellent answers to the many questions we have respecting trees or shrubs most suitable for planting in small places. We doubt if the list can be bettered, although in some cases, according to preference, one variety may be more popular than another.

Best Plant for Hedges.

After general discussion, the verdict seemed to be in favor of the *Honey Locust*.

One observer had a Honey Locust Hedge, about 100 rods long, which had stood sixteen years, and was nearly perfect. He has never known a plant to die from effects of insects.

Another had known a hedge of Honey Locust, fifteen to twenty years old, perfect in every respect.

The *Japan Quince* was named for hedges, but its main objection was its slow growth.

Best Evergreens for Hedges, Screens and Belts.

No verdict was unanimously given, although the preference was shown for Norway Spruce.

On sandy soils, White Pine will succeed, while Hemlock will fail. One member said the finest hedge he ever saw was White Pine.

When to Plant Ornamental Trees, Shrubs or Evergreens.

Transplant Norway Spruce in May or August; September is too late.

Do not transplant Hemlock in July or August; early May is best; the quicker they start into growth, after transplanting, the better.

A Rampant Wisteria.

A most beautiful specimen of the Wisteria when in full bloom, last year, attracted general attention from all England. It covers the front of a well-known hotel near Slough, and runs around each eave for some distance, making a breadth of at least one hundred and fifty feet. It was placed against a strong iron support of the verandah, which support it long since lifted bodily from the ground and broke in pieces with seeming ease. A Laburnum grows against the building on one flank, and the contrast between the clusters of blue and yellow flowers is declared to be perfectly charming.

Speaking of Wisterias, calls to our mind the largest vine known in the United States. It is situated in New York city, corner of Second avenue and Seventh street, and covers a space of one hundred and fifty feet long by about sixty-five high—luxuriant beyond description, and a perfect glory when in bloom.

A Variegated Almond.—A new and very handsome variety of the *Amygdalus communis*, possessing variegated leaves, has been introduced in Europe by M. Ausseur, Sertier, Nurseryman of Lieusanit (Seine et Marn). This plant is described as being very vigorous, a beautiful, strong grower; and the beautiful color of the leaves—fine green, marked with snow-white streaks, somewhat like variegated Negerado—make not only a charming contrast but a magnificent display when put *en masse*.

Garden Gossip.

Novelties of 1873.

A LATE number of the *Gardener's Magazine* opens with a capital editorial upon new plants and flowers. It says, "a good old plant is always to be preferred to a bad new one, or to a novelty wanting in distinctness and manifest superiority."

It would be well for enthusiasts in floriculture, on this side of the water, to bear this truism in mind, and not to plant a new flower unless it embraces one or more well-marked characters not to be found in our old favorites.

It is not a sufficient recommendation for a novelty to be equal to our old standard kinds, but it must be better; or at least as good, with certain distinct characters.

The lover of greenhouse plants is enabled to make many fine additions to his collection, as some families of plants are especially rich in novelties. The *Auriculas*, one of the neatest of English florist flowers, has received several additions from Mr. Turner, of Slough. Some of these are Alpines, and stand the climate of England with impunity, but with us they are comparatively useless.

The *Azaleas*, so deservedly popular with every one who owns even the smallest sized glass-house, is recognized famously among the new plants. To such as make a specialty of this truly elegant flower (and what can surpass it for winter decoration?), we append the list, selected by the G. M., as the cream of the novelties: *Appollo*, *Comtesse de Beaufort*, *Comtesse Eugenie de Kerchove*, *Mad'le Van Houtte*, *Marquis of Lorne*, *President de Walle*, *Princess Louise*. The pretty little hardy kind, called *Azalea amana*, has received an improved form which is highly extolled.

Very many of our readers are well acquainted with the *Begonias*; a genus well deserving of extensive cultivation for their beautifully colored foliage and numerous richly tinted flowers.

Of this latter class we desire to speak

especially, as in all probability such will eventually prove to be among our very finest bedders during the summer months. So many new varieties have been introduced during the past season, that we cannot enumerate them all here, leaving the selection to the taste of our readers; but with the remark that, for window decoration all the year round, they will prove unsurpassed.

Cinerarias, a very pretty family of plants for the conservatory, have been increased in interest by the introduction of double flowering sorts.

We now arrive at one of the choicest garden ornaments of which we have any knowledge—the *Clematis*. Hardy, delicate and graceful in growth, with an abundance of showy flowers, we do not wonder at their well deserved popularity. Owing to the exertions of Messrs. Jackman, Noble, Cripps, and a few others, the new varieties, the past season, have been wonderfully fine; so good, indeed, that we do not know where to make a choice, nor what to leave out of a first class list.

Among those, however, of the greatest merit, we wish to call attention to *Louis Van Houtte*, *Duke of Richmond*, *Stella*, *The Queen*, *May Queen*, and *Undine*.

That old-time favorite, the *Dahlia*, has not received as much encouragement of late as was formerly its due. Still, however, quite a number of excellent kinds have been presented for approval of late, the following being among the best: *Ovid*, *Miss Dennis*, *Miss Harris*, *Julia Davis*, *Mrs. Lervington*, and *Parrot*.

The *Gladiolus*, now considered one of the best summer-flowering bulbs, seems to increase in popularity, if that was possible. Among the most careful raisers of this might be named the Messrs. Kelway, of England, and Souchet, of France. The former gentlemen have sent out, as superior to anything in their own lines of color, *Captain Stucky*, *Harrison Weir*, *Lady Bridport*, *Mrs. Reynolds Hole*, *Neogene*, *Rev. H. Dombrain*, *Scopa*, and *Pythias*.

One of the most satisfactory plants for decorating our empty greenhouse shelves dur-

ing the summer months, is the *Gloxinia*; a bulb that any novice may readily grow. The new varieties this year are "legion." The *Gardener's Magazine* says: "Those who buy all the new Gloxinias that are offered will do themselves no harm, for there is not a bad one in the market."

The *Zonale Geraniums* are decidedly fashionable, not only in this country, where they bloom so continuously beneath our hot summer sun, but all over Europe as well. In speaking of the novelties in this line, our authority says: "*Rienzi*, a scarlet of great size and perfect form; *Jessica*, maroon crimson, in large globular trusses, and *Zenobia*, a bedder producing vivid carmine-crimson flowers, are genuine startlers, and carry forward the high type of zonales by a great bound." Only two of the variegated leaved varieties are mentioned, *Henderson's Keepsake*, a golden tri-color of fine constitution, and *Mrs. Carr*; the leaves are almost wholly white.

Poor old *Hollyhocks*, the pride of our ancestors, seem to have received the "cold shoulder" during the past year. A few new varieties, however, are offered by Mr. Chater, the celebrated grower; and we hope, for old association's sake, if not for their intrinsic value, these showy plants will still be grown.

Verbenas, it is said, are looking up; and the novelties in this class are mostly good, and some half-a-dozen new kinds are recommended. Many of the best growers in America, however, prefer raising their plants from seed—preferring health and vigor, to a certainty in color and size.

We close our remarks with the *Rose*; and here we find such a host of candidates, that to particularize might call down upon us some sharp criticism. Nevertheless, the new varieties are, in reality, less numerous than in previous years; and the *Gardener's Magazine* describes but five as the best, in its judgment, viz.: Perpetuals—*Jean Dalmas*, *Prince Paul Demidoff*, *Captain Christy*, *Baronne Vittat*, *Perfection des Blanches*, *Peach Blossom*, *Star of Waltham*, and *Beauty of Thames*.

In Teas, *Ophelia*, clear yellow, and *Shirley Hibberd*, delicate nankeen.

Kalmia Latifolia.—This shrub, generally known as *Laurel*, is without doubt the most beautiful of our native plants, though not as showy as many of the tribe to which it belongs (the *Rhododendron*); for many situations it is far more desirable—being perfectly hardy, symmetric in form and invariably a profuse bloomer. There has probably been more *unsuccessful* attempts made to domesticate this than any shrub we possess. This is to be regretted; yet, we hope all who have tried will give it one more trial, as the writer has seen hundreds taken from the woods and planted in nursery rows, and not one in fifty fails to grow. The only necessary care to be taken is to cut all the branches to within two inches of the main stem, and plant in ordinary yellow loam, which should be enriched with well-rotted manure or leaf mould. They will make vigorous growth the first, and usually bloom the second season. For a fine effect, they should be planted in clumps of six to ten, each, upon the lawn.

Tamarix Plumosa.—*M. Carrière* writes as follows in the *Revue Horticole*:

"Nothing can be finer or more graceful than this species, which is still so rare in spite of the readiness with which it can be propagated. Its numerous slender branchlets, of a glaucous green hue, bear a certain resemblance to the curled plumes of the ostrich (or the white stork), whence its popular name of "Marabout." It flowers in August, about the same time as *T. indica*.

The flowers, which are disposed in dense, erect panicles, have an airy lightness which adds much to the elegance of the foliage, isolated on a lawn or in a large park. *T. plumosa* forms a compact mass of the most pleasing appearance; it is quite as hardy as *T. indica*, and is propagated and treated in precisely the same manner.

New Salvia.—The new *Salvia alba*, pure white colored flowers, but with same habit as the *splendens*, must not be forgotten this season by amateurs. For ribbon beds plant the *splendens* plentifully in the center and then edge it around with a strip about a yard wide of the *alba*. The contrast in colors is very decided.

The Flower Garden.

Flower Garden for April.

MAKE all possible preparation this month in readiness for planting when the season is advanced enough for that purpose; see there is a stock of stakes of the sizes required for tying large plants which are likely to be disturbed by the wind; dig up flower beds and borders, at the same time adding decayed manure or fresh soil; this is necessary in all beds in which strong growing plants, such as Cannas, Humea, Castor oil plants and Caladiums are planted, and also for Verbenas, Alternantheras and variegated Geraniums. It is also necessary to stir the soil at least two feet deep; plants growing in soil only three or four inches deep suffer as soon as the hot weather commences, but those planted in deep dug soil will grow away during the longest drought. We have tested this here, where cause and effect is much more perceptible than in the damp climate of England.

If there are any alterations to finish in making or rearranging beds or borders, get them completed as soon as possible; but after such a very mild winter that work will no doubt be generally complete. When the frost is quite out of the ground, any hardy herbaceous plants, such as Pæonies, Pentstemons, Tritonæ, Hollyhocks, Pampas Grass, evergreen Candytuft, and Phloxes, should be planted at once. These plants are best planted in groups or patches in shrub borders, not under the shade of shrubs and where they will be overgrown with the roots and tops of large trees, or they will be exhausted and robbed of all moisture by their stronger neighbors. The ground should be stirred deep before planting; it is no use to make a hole just big enough to receive the roots and leave all around as hard as a road.

Lilies.—If bulbs of *Lilium* were not planted in autumn, which they always should be except *Longiflorum*, which is not quite hardy, plant at once, and in this case do not expect grand results; the lilies make their largest quantity

of roots in the winter before the tops commence to grow, which can be seen by taking up roots as soon as frost is out of the ground.

Gladiolus.—Plant some *Gladiolus* for early flowering, it often proves the earliest planted bulb, gives the finest flower spikes, and by making several plantings at intervals of two or three weeks, it will usually give a succession of blooms until frost commences. There are now so many handsome varieties of these flowers that it is difficult to advise what sorts to plant, as it is rather a question of money; but I may say that many of the varieties sent out in the last five or six years are altogether more handsome than the older sorts; at the same time if any one requires a large mass of bright color, the old *Brechleyensis* is unsurpassed; but if a large white, or in some instances a beautiful striped and flaked flower is required, grow *Shakespeare*, which is often as handsome as the finest *Orchid*; and *La Candeur* is as near perfection in flower and spike as a pure white *Gladiolus* can be.

Mignonette.—Sow a few patches of *Mignonette* in various parts of the garden; the scent is very pleasant and refreshing and is also useful for bees, which should be kept by dwellers in the country.

Sweet Peas and Verbenas.—Some Sweet Peas should also be sown either against fences or in circles, to be supported by a few brushy stakes. About the third week in the month is a good time to plant Verbenas, or if the weather is favorable, even earlier. We saw some planted very early in the month last year and they did very well, although it was very cold, quite hard frost, and snow after the plants were out. The advantage in early planting is, that the plants get well established before hot weather commences, and spread out and cover the ground with a dwarf compact growth which flowers much better than later planted ones. Verbenas should be planted in a large mass, with the colors nicely mixed to make the most satisfactory show. We have seen a border only wide enough to plant two rows look very well indeed by dotting in the various colors with judgment; but we consider a large circular

bed the best to show off these plants ; but do not start with a bright scarlet variety in the center, that would fix the eye and spoil the effect of the whole bed ; a white or light color is best for a center plant, and then put in as many colors as you wish, placing each plant about fifteen inches from another and about twelve inches from edge ; note that the colors are evenly balanced round the bed ; any little inequality in growth can be shortened as the plants cover the ground. It is a mistake to raise flower beds, especially for Verbenas, above the level of surrounding turf ; it should rather be below in this climate ; it requires all the rain we receive, and if beds are raised the moisture all runs away, leaving the soil dust dry. We planted Verbenas a yard apart and they covered the ground, but it was made very rich, to get good cuttings for propagating.

Planting Roses.—This should be done as early in the month as possible, to get the plants well started before the dry weather. We have felt surprised to find Roses grow and flower so well on our light sandy soil, but there being clay underneath, plants never suffer here from a dry summer so much as on much stiffer soil ; and we are never troubled with mildew until the heavy dews in autumn ; then if the ground is dry, mildew is sure to appear.

We prefer planting Roses in beds to placing single plants in borders ; the plants flourish better and are more under control.

If the best results are expected, the beds require good preparation. In England we used to dig the ground from two to three feet deep, removing the bad soil from the bottom and adding one-third clay marl and one-third rotten manure, mixing the whole thoroughly together, and planting the roses two feet from each other, cutting the plants down to two or three eyes the first season and leave all the strong shoots the second, which were pegged down. These shoots started and flowered from every eye, and each year the old shoots were cut out, also the weak ones, and the strong ones pegged down as before. This made a mass of the largest flowers. This treatment refers to the hybrid perpetual class.

The Bourbon, Teas and Chinas require different management. The beds were mulched with half decayed manure, which was removed in the spring and the plants pruned to near the ground, as usually the unprotected wood was injured, but shoots started from the bottom and the plants flowered very fine ; in some instances from thirty to forty buds on a shoot of *Souvenir de la Malmaison*.

Previous to the winter of 1860 and '61, most of the roses, even dwarf, were worked on the briar, but that winter made a clean sweep of all the budded plants in many places ; we had more than ten thousand killed, and the growers in the trade in some cases lost nearly all their stock ; but, strange to say, several plants of worked *Gloire de Dijon* escaped with little injury. This learnt us a lesson, not to plant worked roses if they were to be obtained on their own roots. In that case, if the tops were injured, the plants would start from the bottom, and there was no trouble with briar suckers coming up all over the bed ; that trouble has sometimes been avoided by taking up and cutting away all suckers and replanting the beds every second year, which gave the opportunity of stirring the beds to the bottom and adding more manure. With care the plants were not checked in the least.

Popular Flowering Shrubs.

BY JOSIAH HOOPES, IN THE INDEPENDENT.

[Concluded.]

OUR native White Dogwood, when branched from the ground, forms a lovely sight, both in spring and autumn. The Double *Altheas*, almost as common as the *Sunflower* and *Hollyhock*, are yet very attractive ; and especially so are the newer varieties, that have received such great attention from the hybridizer. One with variegated leaves has flowers as double as a rose. The French have sent us one with milkwhite bloom, and still another of the same snowy hue, but perfectly double.

Among the old-time shrubs we might enumerate the upright *Honeysuckles* ; and these too have been greatly improved, as one entitled *rubra grandiflora* will abundantly testify.

The Tamarisk is of later introduction, but especially desirable for its long, slender racemes of pink flowers and very delicate light-green foliage.

The Sorrel Tree (*Oxydendron arborea*) is a native of Virginia, etc., and forms a very attractive object, either singly or in groups, when its long, curving racemes of little white bells are in perfection.

The Magnolia furnishes us with a few choice kinds that may be introduced into the shrubbery. The Purple-flowering and Speciosa, with white bloom, are the most appropriate. Our native Red Bud, or Judas Tree, if well headed in, is also available and exceedingly showy. The Laburnum, or Golden Chain, is greatly admired for its rich yellow flowers; but, unfortunately, it is occasionally injured during winter. Two shrubs, of the largest size, must always receive a prominent position—the Mist Tree (*Rhus cotinus*) and Fringe Tree (*Chionanthus Virginica*) the former with purple, plume-like flowers and the latter with feathery, snow-white bloom.

The superb Stuartia of the South, succeeds well in Pennsylvania and is really one of the finest plants we have ever seen. Its large creamy-white flowers are abundant and showy.

We close this section with a group of small trees that look well in the background, and especially when placed in a compact mass—the Double-flowering Peaches. The colors are white, crimson, scarlet, purple, striped, variegated, etc., and create a brilliant effect when in full bloom. At this period we wish to have them directly in front of the dwelling; but as soon as the flowers fade away we are just as anxious to have them out of sight until the next season.

The second class or medium-sized shrubs embrace a few kinds that eventually grow quite large; but by an occasional pruning they may be kept down to the required size. The Rose, as a matter of course, must take precedence in rank. But we cannot embrace the entire family in this section, as several divisions are rather dwarf in character. Here may come in the most of the hybrid perpetuals and mosses, as well as the Noisettes,

trained to stakes. The Rhododendrons are almost without a parallel in point of usefulness. The foliage is attractive all the year round; and how shall we describe the gorgeous coloring or beauty of the trusses of flowers? We have not the space here to go into an elaborate description of this superb shrub, but will merely add that the smallest place should have a representative of this in a prominent position. The Azalea comes next in value, and is, in fact, very nearly allied. The splendid Ghent hybrids are marvels of beauty.

The Berberries are handsome in flower and fruit; and here must be classed the evergreen members, known as *Mahonia*. The Clethra and Itea, two native shrubs, are lovely in cultivation and well deserving our care. The Dwarf Horse Chestnut is a spreading bush, with long spikes of misty-white flowers.

What florist does not know and appreciate the beauty of the Japan Quince (*Cydonia Japonica*), with its intense scarlet flowers? The white, or rather blush-colored, is vastly inferior.

And the Deutzia, a species of recent introduction, how showy when covered with its complete mass of white bloom. The double variety is especially fine. We next have the Wiegela, also introduced of late years, and now comprising a long list of names, some of which are almost identical in color. We prefer the old *Rosea*, with Rose-colored flowers; *Grænewegenii*, a German variety, with very deep-red blossoms; and *hortensis nivea*, with silvery-white flowers. The last we claim as one of the finest shrubs in cultivation.

The Forsythia, or Golden Bell, is truly the harbinger of spring, a few warm days being sufficient to clothe it with a yellow dress.

But now comes a real gem; for, notwithstanding the many attractive new forms given to the Hydrangea, the newer *paniculata grandiflora* exceeds them all, and most other shrubs as well.

The Spiræas constitute a very valuable genus—the most desirable being *Billardii*, rose-color; *callosa*, pink; *prunifolia*, double white; *Rævesii* and its double form, in white umbels; and *ulmifolia*, with downy white bloom.

Viburnum plicatum closes our list ; not by any means as the last to be selected, for it is actually one of the first. It is a rare Japanese species, with large globular heads of pure white flowers—in the way of the old Snowball, but vastly better.

The third and last section, embracing the smaller-sized shrubs, is one of importance. Here, too, we commence with the Dwarf Roses. The Teas, Chinas, and Bourbons may all be kept within bounds by an annual pruning ; and they are all free bloomers, especially in June and again in September.

The native White Azalea (*A. viscosa*) is a low plant usually, that produces pure white, fragrant flowers. The Dwarf Red Azalea (*A. amana*) makes a fine bed by itself or as an outer edge to the taller-growing kinds. The *Daphne Cneorum* is a charming little hardy plant, with numerous umbels of pink flowers, and the *D. Mezereum*, although larger in every way and very pretty, is still its inferior. The *Deutzia gracilis*, now very well known, yet retains its popularity as a deserving dwarf shrub. When in bloom, the whole plant appears to be a ball of white bells. The Dwarf Variegated *Wiegela* is one of the newer little varieties that give universal satisfaction. Its foliage is very agreeably mottled and blotched with yellow and pink and the bloom is equally as attractive as that in the larger kinds.

Among yellow blossoms there is something exceedingly neat and pretty about the character of the *Hypericum*. We prefer the *H. prolificum* and *H. Kalmianum*.

And now we call attention to two old friends, the Double Pink and Double White Dwarf Almond. Were it not for an unfortunate habit of blighting, they would certainly rank with the most valuable of our dwarf shrubs ; but they are, nevertheless, very showy. A near relative, and one that should by rights be classed with those of medium size, is the Chinese species, *Prunus triloba*. It is really lovely when full of double rose-colored flowers.

Spiræa callosa alba is a new dwarf variety, with very distinct white bloom ; and *S. Thunbergii* has also white flowers, of very small

size and narrow linear leaves. Both are fine for forcing in pots.

In light, peaty soil the *Kalmias* are always attractive, although somewhat difficult to manage ; but in point of beauty they are among the most attractive.

And thus closes our list of valuable shrubs. That we have omitted very many of great excellence none can doubt ; but, if the foregoing are planted properly and receive careful attention afterward, they will assuredly prove all that the most exacting can possibly desire.

To our readers, one and all, we say : Plant shrubs, and then take care of them. They will weave an additional charm around your homes the whole summer long, and make you better, mentally and physically, for the battle of life.

Honeysuckles.

SELDOM do we see an American article on Honeysuckles, but English gardeners are alive to their beauties, and here is a beautiful as well as a practical contribution to the literature of climbing vines, from a contributor to *The Garden* :

“Everybody loves honeysuckles ; every poet has written of the woodbine ; every posy we receive from the country is sure to contain trusses of its flowers ; everybody remembers that ‘lovely cottage’ with the woodbine half choking the doorway, or half smothering the window. The honeysuckle is not at all an aristocratic plant. The day laborer may have one rambling over his little arbor, and the countess allows another on the summer-house, provided it does not interfere with the ‘magnolia ;’ but, on the whole, it is banished from all ‘fine gardens.’ To nail every shoot of it to the wall, with a multitude of nail and red shreds, is like putting a plant in a straight waistcoat. It must have liberty. There are three modes of growing honeysuckles apart from anything like masonry ; for, as a hedge or bush and a pole or pillar plant, it is exceedingly well adapted. Whenever it may be desired to have a hedge of honeysuckle, either for its own sake or as a screen or a

division, construct a slight kind of railing or paling, plant the honeysuckles about a yard apart or less, if you think proper. Planted in good soil they will grow vigorously, and as they progress they will require training; that is, do not allow half-a-dozen young shoots to coil themselves into a cable, but guide them, either by tacking or tying, so that the whole of the woodwork may soon be covered. When this is done it will require no farther care than to reduce extravagant growths to something like order. Never mind symmetry, and there must be no clipping of shears; let it grow in its own natural way. A hedge of honeysuckle is one of the most beautiful sights in the world. Perhaps the Dutch honeysuckle, with its various tints of blossom (owing to the mutation of color each blossom undergoes), is the best for this purpose. Bush honeysuckles are charming objects for the fronts of shrubberies, however choice. To form bushes, place three stout stakes trianglewise, at about two feet apart and from two feet to a yard high. Put on a good plant in the center, or one at each corner, and as they grow, coil the shoots or 'bine' round the stakes. They will soon make fine globular bushes, and will, with very little pruning, maintain their shape when the supports are gone. Pillar honeysuckles are very telling objects in the backgrounds of shrubberies and such places. Strong rough poles, from eight to twelve feet high are placed as supports here and there in the background, among shrubs. To these the plants are put; they soon run up to the top, and then fall over in wild bold masses—very beautiful. The trumpet honeysuckles are more delicate in habit, and do best in the most select spots, in the *front* of choice shrubs, supported with neat stakes from four to five feet high. The *Lonicera flexuosa* or *L. Japonica*, is evergreen, and has a habit unlike that of any other kind; the delightfully scented blooms are axillary, in pairs, not terminal, like most others. This is the quickest growing shrub I am familiar with, running from twelve to twenty feet high in a single season. It will grow (but not flower) in any situation, and is charming for

covering unsightly gables and buildings. It will soon cover almost any amount of wall, on which, when covered, the branches should be left to grow naturally. A dead tree, especially one with horizontal branches, produces a fine effect when covered with this kind; let it be tacked or tied when growing to most of the main branches, and then let it alone; the long flexible shoots will hang to the ground in every direction.

The Cloth of Gold Rose.

ANDREW S. FULLER, of the *Rural New Yorker*, expresses doubt whether any of the newly famous yellow roses are at all superior to the old and well-known "Cloth of Gold," and speaks thus of his experience with it: "More than twenty years ago I purchased a plant of the beautiful Noisette rose, known as the Chromatella, or Cloth of Gold. It has been a favorite of mine ever since, and, although many competitors of a similar color have been introduced, like the Marshal Niel and Isabella Sprunt, still our old rose is without a superior. Like some other varieties of this class, the plants do not bloom very freely upon their own roots until two or three years old, but then they make up for lost time. When grafted or budded upon strong Manetti or other free-growing stocks, the plants will bloom when only a few months old; but the novice in rose culture is very likely to allow suckers to grow from the roots of the stock, thereby robbing the graft of sustenance, soon destroying it. If a person can only have patience, and wait for a plant on its own roots to attain age or size, he will be well repaid in abundance of the most deliciously fragrant, large, pale lemon-yellow colored roses that the most enthusiastic admirer of flowers could desire. A six-year old plant of this old Cloth of Gold rose has been perfuming my greenhouse for several weeks, and to-day it is loaded with dozens of full-blown flowers and half-opened buds; and, upon the whole, it is as grand an ornament as one could wish for conservatory or parlor. Plants of

this old rose can be had very cheap of our florists, and no person who loves roses should be without it. If a person has no greenhouse in which to keep the plants in winter, they may be bent down and covered with earth, or dug up and heeled in and then protected with coarse litter or manure."

The Fountain Plant.

A WALLINGFORD, Conn., contributor of the *Oneida Circular*, seems to have had unusual success in the cultivation of the new "*Amaranthus Salicifolius*." "Whether there is anything in the situation, soil or climate specially favorable to their development, I cannot say; but I have never seen amaranths with so much beauty; and this willow-leaved amaranth, the Fountain Plant, is the most unique specimen of the whole class. It is said to have been introduced here this season from England, and to have come originally from the Philippine Islands, where it was discovered by the late J. G. Vietch.

"Our plant measures now two feet and three-fourths in height and two feet and one-half in diameter at the base, and gradually tapers from the ground to the top into an exquisitely formed pyramid. It is still growing vigorously. Viewed in the sunshine from the arbor, while writing, its colors appear to be golden-bronze, deep violet and green. Perhaps a dozen leaves on the plant measure half an inch in width; the others vary from one-fourth to one-eighth of an inch in width, the width being uniform throughout. The lower leaves measure five inches in length, while many of the upper leaves measure thirteen and fourteen inches in length, drooping like spray over the surface, and adding grace and beauty to the whole arrangement.

"Imagine a pyramid of the above named proportions, with tiers of water jets arranged in circles, one above another, each emitting its spray, and you have an idea of this vegetable fountain."

Roses for Ribbon Beds.—An exchange recommends the following as best for this purpose: White daily, Louis Phillippe, Hermosa, Agrippina.

Hydrangeas.—In planting this spring do not forget some of the prettiest class of flowering shrubs; of late, some beautiful sorts of *Hydrangea* have attracted attention, and we name a few of the most desirable worthy of notice:

Hydrangea paniculata grandiflora, a highly ornamental shrub, with enormously large dense flower heads, opening pure white, and tinted with rose, in their mature bloom; blooms profusely during the summer months, and is perfectly hardy.

Alatra, a very beautiful plant from Japan, giving large clusters of bluish-pink flowers in great abundance, through the season; the flowers are very persistent, a splendid plant and most probably perfectly hardy.

Stella flore pleno, a new double *Hydrangea*, from Japan, described as magnificent. It was greatly admired at the London (England) flower shows, where it was exhibited in great beauty.

New Double Zonale Geraniums.

We see it announced that three new geraniums will be sent out this spring by Jean Sisley, the famous florist of Lyons, France, which appear to be very remarkable. *George Sand*, having double flowers larger than any single variety known. It is white when grown under glass, and rose tinted in the open air. *Francois Pertusati* has large double flowers, aurora, edged with white. *Carl Vogt* has medium sized flowers of a salmon orange of a new shade.

Preserving Cut Flowers.—Mr. Fremont, a chemist, in a letter to the French Society of Horticulture, mentions a way of preserving cut flowers in a state of freshness. It is to dissolve sal-ammonia, or chlorhydrate of ammonia (obtainable of any druggist), with the water in which the stems are put, in the proportion of five grains to a pint and a half of water. In this way, it is said, they will often keep fresh for a fortnight.

Small Beds.—No. 1, plant wholly in geraniums—Gen. Grant; No. 2, *Centaurea* in center and *Alternanthera versicolor* outside; No. 3, Pampas Grass in center, with remaining surface of bed covered with creeping Ivy,

The Vegetable Garden.

Vegetable Gardening.

Essay by D. L. Hall, before the Kansas State Horticultural Society.

OF the first importance in the cultivation of vegetables, either for market or home consumption, is a suitable

Soil and Location.

Without a suitable location—that is, one with warm exposures, and naturally or artificially well drained—no soil, however good, will produce early vegetables; and unless the soil is suitable—that is, deep, friable, and at least moderately rich—we cannot produce good ones. To receive the best results, then, it is indispensable that the spot selected for the vegetable garden shall be *early* land; that is, with a southern or southeastern exposure, level or gently rolling, and well drained naturally or artificially; and that the top soil shall be neither “clayey,” nor “sandy,” but rich and deep, with a sub-soil of sufficient porosity to admit of waters passing off freely and rapidly, without washing.

Next in order to the location of the garden and of nearly if not quite equal importance, is a thorough

Preparation of the Soil.

Sowing seeds of vegetables, or transplanting plants of them in shallow-plowed, unmanured, or weedy land, is time, money and labor thrown away. The best and most experienced gardeners, both amateur and commercial, agree that ordinary land cannot be put in condition to raise the best crops of vegetables, with less than three years' careful preparation; and my own experience has fully demonstrated the truth of this assertion. But by careful and systematic working, fair crops may be realized the first year.

Proper preparation of the soil for growing vegetables consists in heavy manuring and deep and thorough pulverization. Manure liberally applied is an important, nay, an indispensable, element of success. Vegetables to be good must be grown quickly, and to be

remunerative the land must be closely planted, and liberal manuring will produce not only heavy crops, but a rapid growth, and early maturity. But manure must be not only liberally but judiciously applied; it must be incorporated with the soil, and in such a condition as to be of immediate use as plant food. To prepare a spot of ground for garden operations, therefore, decomposed manure, or compost, should be liberally applied, and the ground plowed from eight to fourteen inches deep, early in the fall, and if practicable, cross-plowed later in the season. In the spring another dressing of fine manure should be applied, dragged in, and the ground again thoroughly plowed and harrowed.

For this last dressing of manure may be substituted—at the time of sowing the seed or setting out the plants—an application of the concentrated or commercial manures, such as guano, raw bone, superphosphates, bone dust, etc., applied to the hill or row. This is equally good for the current crop, and where the ground is not in the best condition, better, as the fertilizing qualities are in shape for immediate use as plant food. It is not, however, of as much permanent value to the land. Having selected the location and put the ground in proper condition, the next thing in order is the best method of

Laying out the Garden.

In either a large or small vegetable garden, the most economical way to plant is in rows. In small, or family gardens, these should run lengthwise across the patch, one path through the center being generally sufficient. Large or market gardens, should be laid off in divisions or sections, as long as the nature of the ground will allow, with roadways broad enough for wagons, at regular intervals; and if more than three or four acres in extent, one crossway through the center. This will be found the most economical shape, both for cultivating and gathering the crops. Vegetables should be planted in straight lines, and generally, in market gardens, at sufficient distance apart to admit of horse cultivation. Those vegetables which when once planted will remain some years, such as rhubarb, aspara-

gus, etc., should be set by themselves; and those which are set some distance apart and can be cultivated both ways, such as tomatoes, sweet corn, melons, etc., etc., should be planted separate from those that are set close together or in rows one way, such as radishes, beets, or onions. A little attention to these details in planting, will save much time and work in after cultivation.

An indispensable adjunct to every well-managed vegetable garden, is

The Hot-Bed.

Without it many kinds of vegetables cannot be had early, and of some kinds—sweet potatoes for instance—not at all. The mode of preparing a hot-bed has been so often described that it is unnecessary to enter into a full description here, and we may merely state that the making and management of a hot-bed is not so extremely difficult but that careful attention to the rules laid down yearly in most of our agricultural and horticultural journals, brushed up with an ordinary degree of common sense, will insure success.

But we may have the garden properly prepared and laid off and the hot-bed ready, and still fail to raise good and early crops of vegetables, if we are not careful in the selection of

Good Seed.

More failures in vegetable culture are attributable to the poor seed than to any other cause—either by the seeds not germinating, or by their turning out to be different varieties than for what they were purchased. There is no excuse for it, for reliable seed growers and dealers are plenty, and send their seeds to all parts of the country. Let this be remembered, in purchasing seed, that “the cheapest is not always the best,” and that “whatsoever a man soweth, that shall he also reap,” and buy seeds only directly from responsible men.

Perhaps, a better illustration of the loss that ensues from incorrect seed, could not be given, than my own experience in tomato growing, when, having bought (as I supposed) seed for five acres of Tilden Tomato, the standard market sort, they proved to be Les-

ter's perfected, a variety totally worthless for shipping purposes—entailing a loss of several hundred dollars. Many market gardeners raise their own seed, and are thus certain of keeping the varieties unmixed; but this cannot always be done, and is at all times more expensive than buying of responsible growers, who make seed raising a specialty.

Having secured good seed, it must be put in properly and at the proper time. Do not sow in the hot-bed on the same day, lettuce and pepper, cabbage and tomatoes, or in the open ground, peas and beans, radishes and cucumbers, but plant or sow each kind at the proper time, sowing thickly and covering only as deep as the size of the seed requires. Many seeds fail to germinate on account of being covered too deeply.

In the family garden the sowing will of course be done by hand; but the market gardener will find it of advantage to use a hand seed drill, of which there are several that do their work perfectly.

The seeds sown, and the young plants up, they must, to insure a quick, healthy, and vigorous growth, have constant and thorough cultivation, not only to kill weeds (they should not be allowed to appear), but a constant stirring of the soil, to admit air to the roots, and to attract moisture, so highly necessary to success.

These general directions are all absolutely essential to success, both for family and market gardening; and if intelligently and systematically carried out, the farmer or other owner of a garden may confidently expect to eat good vegetables, of his own growing, in good season. But the gardener who expects to sell his products, has yet a very important matter to attend to, one on which the profitable sale of his crops depends, viz.:

The Preparation of Vegetables for Market.

They must be carefully picked, and in the proper season; carefully selected; no poor or imperfect specimens being allowed to go into the bunches or packages. If sent at all these should be put up separately and sent to market as poor, or second class, but better in most cases thrown away.

Window Gardening.

My Window Garden.

IT had been a dream for years—an Oriental sort of a picture—with plants arranged in graceful groups, a fountain with musical drops falling and tinkling in the center, and birds hopping and singing amid the branches. Finally it came to pass. I had it in reality, although somewhat smaller than I used to imagine, as it is so much easier to build "*châteaux en Espagne*" than on *terra firma*. And this is how it was done—the "gude mon," the early days, having decided that it was not impracticable, even with moderate means. Our sitting-room had a delightful southeastern exposure, and was shaded by large maples in summer, and yet permitted full entrance to the sunshine when the leaves had fallen. So the whole side of the room was taken out, and a large bow window fitted in, with sides and sloping roof of glass. The foundation, of brick, was filled in with large stones at bottom, then smaller ones, with gravel on the top for the floor, which was left one step lower than the room. Some sashes were hung on hinges, to be opened for ventilation, and two opposite panels of wood at the bottom as well. A beam that was left as support to the ceiling, in the center of the opening, was eased and made ornamental, with brackets for pots, as were those at each side. Hooks, for hanging-baskets, were placed in the sashes of the roof, and shelves on iron brackets around the window.

The fountain—a very simple one, it is true, with a single jet, but very pretty for all that—was made by leading water through a small lead pipe, from a tank up stairs, into a basin formed of a large, round wooden bowl, sunk in the ground, covered with cement inside, into which pretty pebbles and shells from the seashore were stuck while wet. A border of ferns and mosses made a very appropriate finish to this spring-like vase, and the little drops rose nearly to the roof, and fell again with a delicate music, sparkling brightly in

the sunshine and helping to moisten the air, warmed only by a stove in the room.

A narrow, raised border of ferns, wild flowers and mosses ran around the window under the shelves. A rustic vase, some large pots, and small stands for pots, filled up the front and corners; and then we waited for results. Wise people shook their heads, and prophesied dire results to my pets, from the frosts and cold nights of winter. At last it came, sharp and severe—a bitter night, with raging north-eastern wind. The glass was thick with frost when we left them to their fate.

We came down next morning a little hurriedly, and found all as bright as when we left. It has never frozen there except once—when some one unfortunately forgot to raise the shades which divide it from the room, one extremely cold night—and not badly even then, and it has been in use for years.

In February and March my window was a most exquisite picture. Framed in arches or green, formed by training vines on wires, with drooping graceful masses from pots placed on the brackets; a dozen hanging-baskets, gay with color or green with leaves and vines, suspended from the roof, with beautiful plants in healthy growth and full of bloom; the silvery water drops falling around them; while my pet canary hopped from bough to bough, singing more merrily and seeming far happier than ever canary bird was before—shut up even in a gilded prison.—PANSIE, in *The Independent*.

A Large Bed.—Make a bed, oblong, elliptical or quadrangle, with rounded corners, 17 feet broad, 51 feet long. Put *Abutilon Thompsonii* along the middle, next a row of dark velvet Coleus, next a row of *Achyranthus reticulata aureus*, next row of Golden Coleus, then a row of silver leaved plants, and Alternanthera outside. Let the roses be 18 inches apart, and plant 15 inches apart in the rows—the outside row to be a foot inside the edge.

Fine flower seeds, such as portulacca, petunia, etc., should be sown on the surface, pressed in, and then watered with a fine rose.

Travels.

Florida and her Resources.

BY "AL FRESCO."

THE readers of THE HORTICULTURIST will conclude that Al Fresco has "Florida on the brain;" and whilst admitting the soft impeachment, I shall offer as an excuse for my last effort at scribbling, an article I noticed in the *Philadelphia Public Ledger*, referring to the resources of the south, in which the writer remarks, "that some day, when the feverish desire to go west shall have somewhat abated, people may stop to develop treasures nearer home." I am convinced that this prophecy will be verified, for the day is not far distant when enterprising horticulturists and pomologists will investigate the inducements for settlement in ancient and much neglected Florida.

We are convinced that the grape, banana, pine apple, orange, lemon, lime and citron will be the main and most profitable crops of the state; but they can be advantageously supplemented by others that will prove profitable, and to which we shall briefly refer:

Coffee.

Between Cards Point and Cape Sable, at the southern portion of the peninsula, there exists a section containing about 400,000 acres of land, on which we are satisfied coffee could be produced to advantage. In 1821, according to Vignoles, a company was formed in Philadelphia for the purpose of cultivating coffee in the southern portion of the peninsula. After a careful examination a very favorable report was submitted. Congress was applied to, and refused to grant to the company the privilege of purchasing a sufficient quantity of land considered eligible for the purpose, and the project was abandoned. In this instance, the government acted unwisely, for the company would have tested the productive capabilities of the region, and have furnished a nucleus around which a settlement would have been established. A desirable locality for coffee culture can be found in the neighborhood

of Cape Sable, about twenty-five degrees thirty minutes north latitude, and northerly of Key West sixty or seventy miles. A large portion of the section is open prairie, and known as the "Yamasee old field." According to Vignoles, who carefully examined the region, the land at Cape Sable, and for some miles easterly, is very good, consisting of a rich grey soil, thickly mixed with broken shells, presenting an even surface without a bush. Beyond this natural prairie rise hummocks of the usual width, and beyond these a boundless savannah, the soil of which is richly alluvial, and perfectly dry for a long distance, mingling, at length, with the everglades. At this locality, from all we have been able to glean, there is a large area of excellent land merely waiting for settlement to make it a tropical paradise. At this point, all the productions of the tropics, including the bread fruit, and cocoanut, can be produced in perfection. The health of the region is excellent; the range of the thermometer all that can be desired, seldom falling below fifty degrees in winter, and only occasionally rising above ninety degrees in summer. During the summer months, rains are of frequent occurrence, producing a luxuriant growth of vegetation. A daily sea breeze occurs, which cools the atmosphere and invigorates the residents.

Many suppose that the coffee requires a high range of the thermometer to insure its successful culture; but we are inclined to question the correctness of this opinion, for on the island of Bermuda, in north latitude thirty-two degrees twenty-four minutes, we found the coffee growing wild, and in great perfection, near the Walsingham caves. As an illustration of the importance of cultivating this product, I need but refer to the fact, that in the year 1872 we imported 298,805,946 pounds, costing at points of purchase \$37,942,225.

Guava.

This fruit can be successfully cultivated over a large portion of the state, but in the greatest perfection, on Indian River, southern Florida and the Gulf coast. The Guava jelly is very expensive in our markets, and owing

to this fact, we annually import of this commodity but about \$15,000 worth. The quantity of this fruit that can be produced in a limited area, is great, and the preparation of the jelly is exceedingly simple. We have read published statements regarding the product of small patches of Guava bushes in Florida; but we must decline giving figures, as we should be subjected to ridicule if not censure.

Sugar Cane.

A large portion of the central and southern portions of the state will produce the cane in greater perfection than any of the West India islands; for the frequent rains which occur in June, July and August, insure a luxuriant growth of stalk and foliage; and the succeeding dry months enables the cane to develop its saccharine matter in the greatest perfection. As a sugar producing region, it is superior to Louisiana; for in that state, the foliage of the cane is injured by early frosts, and the perfect development of the saccharine principle interfered with. Of this substance we annually import 1,457,512,299 pounds; costing at points of purchase \$79,146,974. Of this amount we annually pay Cuba about \$50,000,000. It seems strange that we possess the climate and soil to produce sugar in perfection, and yet our population rush to our grain fields of the west, and raise wheat at a figure that gives them a bare subsistence.

Almonds.

We imported in the year '72, 4,148,268 pounds, valued, at points of production, at \$471,601, or nearly nine cents per pound. This crop can be produced in the greatest perfection in the central portions of the state, from Quincy to Sumpterville, and possibly as far south as Cape Ruwano.

Zante Currants.

Many are not aware of the fact that the currants of commerce are merely the dried berries of a seedless grape. If this particular variety of grape would escape the ravages of the *Oidium* and *Phylloxera*, its production would prove remunerative, for in the year 1872 we imported 11,479,578 pounds of this fruit, valued, at points where purchased, at \$467,220.

Figs.

In the year 1872 we imported 6,423,559 pounds of figs, costing at points of purchase \$422,246. The fig can be successfully grown in any portion of the State; and the method of preparing the fruit for market could be easily acquired. As the cost of production is almost nothing, and as the dried fruit sells at points of production at about fifteen cents per pound, we see no reason why their production and preparation for market would not prove profitable.

In 1872, we imported bananas to the value of \$395,858. This fruit can be successfully grown in Florida, from the Indian river and Manatee to the extremity of the peninsula. This crop is easily cultivated, and the annual yield is enormous. The section where this fruit can be grown is so near to our northern markets, that if persons could be induced to engage in its culture, the home grown article would soon displace the imported.

In 1872 we imported arrow root to the value of \$37,084; of medicinal rhubarb \$50,912, and of ginger \$89,572. These three articles bring remunerative prices and are easily cultivated, and in every way adapted to the southern portion of the peninsula. During the same period we imported, of Cayenne pepper, senna leaves, and opium, of the value of \$30,000. These articles could likewise be produced.

In 1872 we imported of the finer qualities of tobacco 7,113,750½ pounds, costing at points of purchase \$3,479,506. It is a well known fact that the State will produce a superior quality of tobacco; and, before the rebellion, large quantities of an excellent article was produced in the central counties; and the agents of German houses visited the State annually for the purpose of purchasing the crop. In Cuba, East Indies, and South America, it is a well known fact that light soils, containing an excess of vegetable matter, produces the mildest and best-flavored tobacco—rich heavy soils, a coarse and strong sample, only fit for the manufacture of an inferior article of cigars. In Florida we have the soil and climate, labor is cheap; through the medium of

our consuls we could obtain seed of superior varieties from Cuba, South America, and the East Indies, and produce at home what we annually spend millions to purchase.

Indigo.

Under English rule, in the State, this was a favorite, successful and profitable crop, and we can see no reason why it should not again be cultivated; more especially as we imported in the year 1872, 1,458,740 pounds, costing at points of production \$1,496,877.

Cinchona Bark.

The cultivation of this important medicinal substance has interested the English government; and where tested, in some of her colonies, it has proved a marked success. Under cultivation, the bushes will supply a crop of bark about the fourth year. Analyses have established the fact that the cultivated bark yields a much larger percentage of quinine than the bark imported from Peru. The plant is readily propagated by layers, or by cuttings in bottom heat. It is a rapid grower and requires no special culture except the destruction of weeds. The demand for this bark is annually increasing; and, owing to carelessness on the part of the Peruvians in collecting the article, the supply will diminish. We believe its cultivation would prove highly remunerative; and this opinion is based upon data published by the English government, the increasing demand for the article, and the fact that we imported, in 1872, 2,852,841 pounds, valued in Peru at \$982,674.

For years, immense quantities of water-melons have been grown in Georgia and South Carolina for northern markets, and their production has proved very profitable. With steam communication to Key West, from thence to New York, combined with speedy transit and low freights, the production of Georgia and northern Florida could be anticipated by several weeks, and remunerative prices obtained. Any person conversant with the New York markets, need not be referred to the fact that the island of Bermuda is mainly supported by the tomatoes, onions and

early potatoes shipped to New York. From careful observations, made in both places, we are satisfied that these vegetables can be grown more successfully in Florida than in Bermuda. Owing to the frequent rains and low range of thermometer in Bermuda, the early tomatoes are small and poorly colored, and do not begin to color before the tenth of January.

The olive has been tested and found adapted to the State; and, although years would be required for a pecuniary return from an olive grove, it would prove a remunerative crop when the trees attained a bearing age. If a grove was planted, the ground could be used for other crops until the trees came into bearing. The amount of oil imported in 1870 was 283,327 $\frac{3}{4}$ gallons, valued at point of shipment at \$403,117.

We could refer to many things that could be profitably grown, but shall merely name the rose, camellias, gartineas, rhododendrons, gladioli, tuberose, and lilliums, for the northern markets. With cheap lands, cheap labor, a healthy climate, cheap meat, an abundance of game, oysters and fish, a diversity of productions, at all times commanding remunerative prices, we see no reason why northern Florida should not become the home of thousands who toil for six months to provide themselves with the means to eke out a miserable existence during the other six.

The figures quoted can be received as authentic, for they have been obtained from the statistical department of the government. Although correct, they are calculated to mislead the reader as regards American market values, for they are based upon customs returns, and simply give values at points of production. To the prime cost must be added commissions, freights, insurance, duties, profits of importers, losses on perishable articles, which materially increase values, and which would add to the profitableness of home products.

As but little is known of northern Florida, we propose, in a future article, to briefly refer to its climatology, health and natural productions.

Fruit Culture.

Are Our Nurserymen Reliable?

BY MYSTIC.

THE experience of many prove the negative. Drummers from some of the leading nurseries travel through the country taking orders, and the trees or plants sent out, quite often, if not generally, prove to be very inferior, or different varieties from those ordered. I know your advice (having read THE HORTICULTURIST for years), buy directly of reliable dealers. Good advice; but hear my experience.

In the spring of 1871, I wanted some plants (I use the word in its generic sense) for my garden, and, resisting the solicitations of a Rochester drummer, personally applied to a Boston dealer of high reputation. The following were included in my order: A dozen grape vines (mostly Concord). The "Delaware" proved, by its fruit, next year, to be Concord, and the Creveling (taken on his special recommendation) lingered along in a feeble condition one year and died; propagated from very small and probably unripe wood. Brighton strawberries; for which the Nicanor was substituted, without my consent. Wilson's Albany; roots so dead (black) I returned them. Three peach trees; Early Crawford, Late Crawford and George Fourth. On planting them out, I found what should have been George Fourth, marked Stump of the World. Next year, what I bought for the Late Crawford, fruited very early in the season, proving to be a poor, little red peach. What the Early Crawford will turn out to be I cannot tell, the fruit-buds having been winter-killed. "Hall's honeysuckle" (*Lonicera Halliana*, or *Splendida*), recommended as hardy, was winter-killed, though on the south side of the house and laid down under a thick covering of straw. The Dutch Monthly (*Lonicera Belgium*), proved to be the Scarlet Monthly (*L. Sempervirens*).

These facts, under the most charitable construction of the case, show a most provoking

carelessness. Such treatment submitted to unmurmuringly by purchasers, will be, as it has been, repeated over and over again by dealers. How long would a merchant retain his customers with such unscrupulous or careless dealing.

Medford, Mass.

Berries—Lost Baskets.

EVERY season there are a great many complaints made by growers against dealers, of their losing so many baskets. In some instances it may be the fault of the dealers, but as a general thing, the loss takes place during their transportation homeward. We all know how roughly all empty packages are handled by these lines, therefore, we should do all we can to overcome the losses on the route. And I am convinced that most of this loss arises from the fact of the cases not having fastenings that can be relied upon. And if the owners of these cases neglect to protect the contents, they should not censure others for their loss. Many of these so-called fastenings are no security to the contents, whatever, when full, and are worse than nothing when empty, for they are simply an apology for protection, deceiving both parties; for if there was none at all on the case the dealer would nail the lid to secure the contents. The hasp and staple is the one most in use, but they give but little protection to baskets and platforms unless the plug is nailed in, for they are easily knocked out in handling; and the new style of having a revolving wire for a fastening is about the worst ever introduced, for there is no dependence to be placed upon them, for they revolve at every handling of the case, leaving the lid free from control.

The lock introduced by the American Basket Company is the best I have met with; it has an extra slide to secure the lid while the cases are full, which is ample; when, if the dealer wishes to ship farther, it can be locked, and also locked on its return—thus securing both parties from loss.

As commission merchants, dealing in small fruits, guarantee the return of the package

and contents to the line transporting them, they are necessarily compelled to examine them before returning them, it is less trouble to lock a case than it is to make and drive a plug, or even to nail the lids, and when locked will protect the contents of the case. I.

Grape Culture in Florida.

BY "AL FRESCO."

ANOTHER section of the state deserving the attention of the grape grower, is Marion, one of the central counties. It extends from latitude twenty-nine degrees to twenty-nine degrees thirty minutes, with an area of about 1,760 square miles. The surface is generally level; but in some localities it is undulating and hilly. Numerous lakes, ponds, streams and springs exist; and excellent water can be obtained in all parts by wells, at a trifling expense. I carefully examined the country to the south of Ocala, and the region between Ocala and Orange Lake, the whole being hilly or rolling. A large proportion of the soil in this section was found to consist of a dark sandy loam, with a sandy loam subsoil, in many places containing large quantities of limestone and siliceous rock, studded with shells—in our opinion unequalled for vine culture. To the south of Ocala, and between Ocala and the lake, large tracts of excellent cleared land (at one time used for cotton growing) is open to purchasers at about \$10 per acre. Around Orange Lake some of the largest wild orange groves, to be found in the state, exist. One we examined, contained about 500 acres. Near the margin of the lake, lemons, one year from the bud, we found totally uninjured by frost; and bananas and pine apples had escaped with but slight injury. Cane, cotton, tobacco and potatoes may be referred to as the staple products; but oats, rye and the fig, peach, almond, and other fruits can be successfully and profitably grown.

Good health, as a rule, prevails throughout the county, except in the immediate neighborhood of lakes and water courses, where intermittent and remittent fevers of a mild type

occur during the autumnal months. Two routes present themselves to those who wish to visit Marion county—one by the St. John's river, from Jacksonville to Palatka; and thence, by the Ochlawaha steamers to Silver Spring; and from Silver Spring, by stage, to Ocala. Another is by Florida railroad, from Fernandini to Gainesville; and thence, by hack, via Micanopy to Ocala. The visitor will find the residents intelligent and hospitable in the extreme. Mr. E. J. Harris, the accommodating, hospitable and gentlemanly host of the Ocala house will gladly furnish any information the prospector may desire. I may casually remark, that the tourist or invalid will find a superior winter climate in Marion county, with good accommodations and excellent board at the Ocala house for \$10 per week or \$28 per month.

For general good health and superiority of land, we are satisfied that Hernando county presents many advantages. The county is situated on the Gulf coast, and lies between latitude twenty-eight degrees fifteen minutes and twenty-nine degrees thirty minutes; and area about 1,500 square miles. As an evidence of the quality of some of the land, I may remark that some of the small fields cleared by the pioneers some thirty years ago, have been in cultivation since, without manure, and are still productive. In the center of the county lies a remarkable body of land, being high and rolling, reminding the traveler of the best cotton lands of Georgia. The county is admirably adapted to orange culture; and for sugar is not excelled by any portion of Louisiana. In many localities the pine apple and banana can be successfully cultivated. As an evidence of the mildness of the climate we may remark that the lemon is the most tender of the citrus tribe; and as we were leaving Brooksville, in February last, Dr. Mayo handed us some lemons grown in the place, which for size, color, thinness of skin and aroma were remarkable. We were assured by A. F. Frierson that he annually made from 150 to 200 gallons of wine from eleven Scuppernong vines. As an evidence of the quality and productiveness of the land

in this locality, with defective cultivation, and little, if any, manure, we append a few figures, going to show what has been produced per acre :

NAME.	Corn.	Oats.	Potatoes.	Cotton.	Sugar.	Rice.	Tobacco.
A. F. Frierson	bu. 56	bu. 40	bu. 400	lbs. 700	lbs. 2,700	bu. 25	.....
J. Claraday	63	50	...	1,000	3,400	43	.....
J. H. Gould	20	...	400	1,100	3,600	...	.....
Wm. Nicks	30	...	400	1,000	2,600	...	.....
James Parkston .....	...	...	...	...	...	1,800	.....
Dr. W. T. Mayo	60	40	...	...	...	42	.....

The inhabitants of the county number about 2,500, and represent almost every State east of the Ohio. In the language of S. Stringer, Esq., of Brooksville, "they are a peaceable and quiet people, frugal and hospitable, courteous to strangers and glad to see them come when they bring the insignia of honesty and enterprise. There are but few who take any interest in politics, and most of these are among the colored people."

Machua county, in the neighborhood of and to the east of Gainesville, presents a section of the State worth examining, as large bodies of excellent land, adapted to grape culture, can be found. Beginning at the western boundary of the State and extending to a section near the head of the St. John's, the traveller will find an elevated belt, with a northerly and southerly slope, forming a ridge or spine about forty miles in width. The soil of this belt is underlaid by a porous limestone older than the miocene group of the tertiary system, and is evidently one of the future wine producing sections of the United States. There may be a few isolated spots on the banks, or to the east of the St. John's river, where the vine may succeed, but, in our opinion, the viticulturist must locate in a more elevated region, where he will find climate and soil adapted to his wants.

As a grape for producing wine, where the proper thermometric conditions exist, nothing can equal the Scuppernong, if we take into consideration the quantity and quality of the product, ease of cultivation, non-liability to disease and its adaptation to almost any soil. One great item of expense attending the cul-

ture of other varieties is pruning, training and difficulties attending cultivation where vines are planted close together. The Scuppernong possesses advantages peculiar to itself, for, all that is required for its successful culture is to supply it with an arbor over which it can wander at will, for to grow it successfully the knife must not be used. Where durable varieties of timber, as live and white oak and cedar are plentiful, the expense of erecting a suitable arbor is trifling. The vines are planted about thirty feet apart and trained to stakes for three or four years, when stout posts, with a crotch at the upper end, are firmly placed in the ground at proper distances; upon these posts stout poles are placed, and upon these saplings or split stuff is laid. When the trellis is erected, the vines are allowed to wander at will. If one of the posts, poles or sapplings decays, it is easily replaced.

With regard to gathering the fruit, the Scuppernong is accommodating. The crop ripens over a period of several weeks, and is easily detached from the bunch when ripe; to gather the crop, all that is necessary is to spread a large piece of canvass or muslin on the ground, and shake the vines. By this arrangement two laborers can collect a large quantity of fruit in a day.

There being so few obstructions, the ground beneath the trellis can be kept clear of weeds, by the use of the cultivator or harrow, at a trifling expense. When the arbor becomes covered with vines, weeds have but a slight chance for growth.

It is customary to plant Scuppernong vines about thirty feet apart, but if we were planting a vineyard of this variety, we should plant the vines ten or fifteen feet apart, and thereby secure a full crop at an early day. As the vines increased in size and encroached upon each other, we would sacrifice the intermediate ones.

In our opinion, the Scuppernong offers a fine field for the hybridist. It presents to the experimenter a vigorous habit, great longevity and an apparent immunity from disease. If hybridized by some of the first class wine growers of the continent (as the Seyras, Ries-

ling, or Pinedus), the resulting seedling would probably furnish us with wine producing grapes of a superior order.

The color of the Scuppernong prevents the possibility of producing high-colored wines; but this could be overcome by the cultivation of the Linta grape, the fruit of which is used to color some of the continental wines. I am prepared to admit that the must of the Scuppernong, like most of our native grapes, contains an excess of acid, which can be disposed of in a simple manner, without the necessity of adding water or making the wine sticky with sugar. The process to effect this object I described in the columns of *THE HORTICULTURIST* some years since.

It will be urged as an objection to vine growing in Florida, that there are no experienced persons to purchase the fruit from the small growers, as in France. In Australia, superior wines are produced by vineyardists, without the assistance of the large manufacturer, and I see no reason why American enterprise cannot accomplish the same end. If the large operator is necessary, he will be found, if a sufficient inducement is offered in any particular locality. We will not pretend that, for many years to come, that the product of Florida would equal the wines of the Rhine, Rhone, Loire or Garonne, or entirely supersede the produce of Oporto, Xerxes, Sicily or Madeira, but the State is capable of furnishing an excellent beverage for those who cannot afford to pay for such expensive vintages; and who will not be dissatisfied to exchange so-called French brandy, rum, or Jersey lightning, for the less injurious or more palatable products of the Scuppernong.

Some of your readers will ask why it is that the grape has not been more extensively cultivated and tested in Florida. It is a historical fact that, in West Florida, the French government ordered a suppression of the vineyards, lest their success might injure those of France; and, according to Vignolles, similar restrictions as to the olive, and perhaps the grape, were imposed by the Spaniards over the Florida colonies. Although these decrees are ancient and have perhaps long become

dead letters, yet they must have prevented the spirit of enterprise that in the first instance suggested such establishments, which once quenched, was not easily revived.

After Florida became a portion of the United States, it was settled by persons from the southern States, who were unacquainted with grapes or their culture. They had been accustomed to the culture of cotton, corn and tobacco, and continued in the old rut after settling in Florida. Since the war, the want of funds has prevented residents from experimenting in vine culture to any great extent.

In conclusion, we may remark, that we would not advise anyone to engage in vine-growing east of the eighty-first parallel. It is probable that the grape would prove successful at Clear Water Harbor, Manatee and Tampa, but of this we have no positive evidence. That it will prove a successful and remunerative crop on the high lands of central Florida, we are convinced from actual observation and reliable data.

Best Six Pears.—The following is a list recommended by J. J. Thomas:

For Market.—Bartlett, Beurre Bosc, Duchesse D'Angouleme, Howell, Beurre D'Anjou, Lawrence.

For Table.—Giffard, Tyson, Seckel, Belle Lucrative, Dana's Hovey, Josephine de Malines.

Our List.—Of the above list, for market, we would throw out the Howell (too soft for market, splendid as a family sort) and Beurre Bosc (not productive enough for the orchard).

For the Table.—We would substitute Mount Vernon, in place of Dana's Hovey, and retain all the rest. We now have 2,500 pear trees growing thriftily, and from a miscellaneous collection of over fifty sorts, we have, by grafting, thinned down to the following:

Standards for Market.—Bartlett, Beurre D'Anjou, Lawrence.

Dwarf.—Duchesse D'Angouleme, Beurre D'Anjou, Lawrence, Vicar of Winkfield.

All of these sorts are capable of a double market, either for sale in the city as fresh fruit, or to the canners for preserving.

New and Rare Plants.

New Sweet Scented Violet (*Lees Victoria Regina*).—Flowers large, deep blue, very sweet scented, foot stalks long, rather stout, blooms well up above the foliage, hardy. Is a seedling from the *Czar*, but has the leaf of the *Devoniensis*, a good grower, flowers freely, and described by English horticultural authorities as delightfully fragrant—the “queen among violets.”

Bambusa Striata.—A native of China. Anthers are purple and showy. A specimen at Kew Gardens is about six feet high, but is described as attaining twenty feet. A plant flowered in gardens of Wm. Bull, England, in Nov. 1873; belongs to Munro's third section of the genus *Bambusa*, which has a long, hairy style, and to which the *B. vulgaris*, and two other species belong. It has been called *B. Fortunei*, but is an entirely different plant.

Ipomœa Mortouii.—A new and valuable climber or creeper, well suited either for climbing or trellis work, or drooping over the sides of baskets or vases; flower pinkish-lilac, grows upward of twenty feet high in one season.

New Clematis.—*Madame Van Houtte*. Flowers pure white, very large, of the finest shape and good substance.

Marie Lefebvre.—Flower from six to seven inches in diameter, color delicate blush white, with a broad purplish lilac, longitudinal band in the center of each petal, colors well defined, very fragrant.

Thomas Moore.—Deep rich violet, tinted puce, a very large flower, occasionally nine inches in diameter; this variety has a curiously conspicuous tuft of white stamens, rendering it distinct from any other.

Mrs. James Bateman.—Flowers very handsome, pale lavender in color, freely produced, very lovely.

Alexandra.—Large flower, color reddish violet, continuous bloomer. The habit of this variety is most luxuriant, and blooms finely through the summer and till late in the autumn.

New Caladiums.—*Prince Albert Edward*.—The broad leaf-blades are of a dark emerald green ground, with a very beautiful rich crimson mid-rib, radiating from the center towards the margin, the intervening leaf-spaces being densely and elegantly spotted with ivory-white.

Princess of Teck.—A fine golden-leaved Caladium, a robust and free grower, attaining a much larger size than any other yellow leaf variety. The ground color of the leaf is a bright orange yellow, which towards the veins is suffused with rich deep red.

Napoleon III.—Brilliant flamed crimson center, with forked rays, and carmine red spots on a rich green ground, very beautiful.

Princess Alexandra.—The leaf color is a pure rosy salmon, through the center of which a conspicuous green rib passes longitudinally, richly bordered with magenta crimson; and from the principal vein, secondary green wavy veins ramify over the intermediate colored spaces towards each side margin. The leaf margin is bounded throughout by a green belt.

Alba Violacea.—Large green leaf, in the style of *Esculentum*, edged with white, fine for bedding out.

New Coleus.—*Crown of Jewels*.—Ground color dark claret, mottled with crimson, tipped with golden yellow, beautiful.

Verschaffeltii Major.—Red claret ground, green half leaf, a very beautiful dark variety.

Verschaffeltii Splendens.—Ground color a pure self-flamed crimson, forming a beautiful brilliant contrast.

Zanzibar.—Ground color canary yellow, dark crimson blotch and rich crimson, beautiful.

New Canna.—*Tricolor*.—A great addition to this beautiful class of plants, and is very distinct from all the other varieties. It attains a height of about four feet; the leaves are beautifully variegated with light green, creamy white and pink; the flowers are of a deep crimson color. Planted in the open ground, as a test, last summer, it retained all its markings in fine style; is considered a great acquisition for either the out-door or the conservatory.

Editor's Portfolio.

Don't Understand.

The *German town Telegraph* misinterprets our correspondent's idea, when it says Mr. Josiah Hoopes "deplores the mania for new sorts of fruits, and neglecting the good, long-cultivated and profitable old sorts which, in a measure, had been abandoned."

It won't do, major: you must rub up your glasses and take another look. He, in unison with all true horticulturists, deplores the mania that leads men to plant new varieties, simply because they are new, but he is just as much opposed to retaining an old variety simply on account of its antiquity.

The idea of the article in question, and which appeared in the columns of this journal, for January, was to glance over the field of labor since THE HORTICULTURIST commenced its work. And the comparison was to ascertain whether we had gained anything in point of quality or not. He has nothing to "deplore;" for it is a well known fact that we have gained in very many ways, although not in flavor in any of our leading fruits.

He did not advise anyone to plant the *Butter Pear*, nor the *Newtown Pippin* apple, and yet there are sections of our country where these succeed now; and we say the residents of these localities will be foolish indeed if they give them up for some doubtful novelty.

Early Beatrice Peach.

Col. Ed. Wilkins, of Maryland, writes specially to inform us that the recent paragraph respecting the Early Beatrice peach being liable to attacks of the curculio, is untrue. A few dropped from trees, but not from effects of the curculio. His faith in the tree is such that he has planted 3,500, and now orders 1,000 more trees.

Flowers in California.

We are favored with the following from the correspondence of a lady who is visiting at Vallejo, near San Francisco:

"I have been over to the United States navy yard. It seemed like an hour in Eden, the park and gardens are so beautiful. The

Castilian rose is the native rose here; into it are budded all the choice varieties.* I saw roses, "Cloth of Gold," eleven inches across, the bushes clambering over half-way up a three story brick house; hedges of from six to eight feet high of pink and red Fish geranium; trees of Lemon geranium and Hairbell fuchsias grow like grape vines.

"Lady Washington geraniums are the plants that grow most thrifty here in the yard, and Cuba lilies keep blowing all the summer out of doors. Dew plants run over everything unless it is kept weeded out. Carnation pinks are as large as our roses. They have to keep cutting flowers, or the blossoms kill the plants if allowed to blossom too freely."

Growth of a Rose Slip.

A rose slip one foot long, planted in Los Angeles, Cal., in 1872, had made in 1873, one year from planting, in the aggregate, a growth of fifty feet.

A Floral City.

A traveller writes of the beauty of the flowers in south France:

"The profusion of violets, roses and camellias that are hawked about the streets of Nice during March and April is very attractive, and the taste with which the bouquets are arranged is very remarkable. All through the country the little children run about offering little bouquets of violets and wild flowers arranged with a taste that you would not find in Covent Garden. The white camellias are not so beautiful as what we have in our houses; they are very white, but do not open out, and have the appearance of a fuchsia with the outer petals recurved and the center petals standing upright and close together. The rose in that season appeared to me to be chiefly Safrano, of the large roses; but the masses of the yellow and white Banksian that hang down from the walls of every garden are perhaps the most striking objects at that season. The scarlet geraniums, which grow everywhere, are chiefly a nosegay of a pinkish scarlet. I have seen a hedge on the roadside at Beaulieu, six feet high, and masses hanging over the rocks on the seaside at the same

place; but they grow everywhere, and are very beautiful.

Orchard Profits.

It was stated at a late meeting of the fruit-growers of Western New York, that an orchard of Baldwin apple trees, 140 in number, yielded, last year, 1,000 barrels. As the ground covered was about two acres, the net profits were \$800 per acre. The orchard had been planted fifteen years, and the average yield during all this time was over fifty dollars per acre per year. Another orchard, which was planted thicker, yielded an average for each year, from the time of planting, of \$270.

Annoying an Actress.

Madame Theo, one of the most popular actresses in Paris, who is married, and whose reputation is above reproach, has for some time been subjected to a peculiar kind of persecution which threatens to deprive her of a favorite addition to her toilette. Shortly after her debut she wore a garland of magnificent white roses around her waist, and the next day a bouquet of these flowers was sent to her with the request that they might be worn that evening. Not wishing to encourage her unknown admirer, she appeared with red roses for ornament, and the following day a handsome bunch of red roses was left at her lodgings, with a note similar to that received by her on the previous day. That night she wore yellow roses, and yellow roses were sent to her on the succeeding morning. Then she adopted violets, then gardenias, and then chrysanthemums; but her still anonymous admirer kept up his disagreeable attentions, and as she is determined not to wear any flower that has been sent to her, she is driving the florists distracted by her demands for wreaths that can be properly worn about the waist. The correspondent who narrates this incident, says that Madame Theo is very much exercised over the identity of her persecutor, but can obtain no clue to him. May it not be possible that her husband, in order to test her faithfulness, even in so little a matter, is the sender of these annoying bouquets? If he is, he certainly ought to have stopped with the chry-

santhemums, and congratulated himself on the possession of his conjugal treasure.

Boxwood in India.

A writer, in *Cassell's Illustrated Travels*, says: "When staying for a day or two with the owner of the lately established Gwaldung plantation, I remarked that a great quantity of the commonest wooden utensils, and the ordinary furniture, troughs, bowls, etc., were made of boxwood! My host told me that within two hours walk of his dwelling there was another box forest, with trees almost as large as those I noticed at Seni Kurruck, but the size of this latter forest was much larger than the one near his house. This wood, so expensive in England, could be cut without let or hindrance in any quantity, and by any one who required it. At present, with a few exceptions, the natives only used the wood for hair-combs; but it is sometimes, though not frequently, cut for making the best articles of furniture. Blocks of sixty pounds weight, or the load for one man, can be obtained for the cost of cutting and the carriage to and down the Ganges. There is no competition, and a man of energy and small capital could rapidly make a fortune there."

Curious Facts in History of the Potato.

Almost every one knows the fact of the introduction of the potato into England, yet very few know the odd accident which prevented it from being totally lost to sight. It was not, as popularly supposed, first introduced by Sir Walter Raleigh. John Hawkins first introduced them into England in 1565; next, Walter Raleigh, in 1584, finally, Admiral Drake, in 1586. It is a little curious that the potato was introduced into Germany just one hundred years ago; and the year 1874 is to the Germans their great potato centennial, which they propose to honor with befitting celebrity.

When the Spaniards conquered Peru, in the sixteenth century, they carried some potatoes to Europe and sent them to the Pope. The raw plant was cultivated a little in Spain, Italy, Burgundy and the Netherlands, and from a certain resemblance to the truffle, an esculent fungus growing in the earth, the Ital-

ians gave them the name of tartuffi, or taratuffoli, whence the Germans derive their word kartoffel. The French called them "apples of the earth," *pommes de terre*, while in Austria and portions of Germany, the equivalent expression *erd-apfel* is used.

Admiral Drake, in 1586, in England, sent some to a friend to plant, with the remark that the fruit was excellent and nutritious, so that it would be very useful in Europe. His friend actually planted the tubers and they grew nicely; but, when the seed-balls were ripe, he took these instead of the tubers, and fried them in butter, and sprinkling sugar and cinnamon over them, placed them before some company as a great rarity. Of course, these balls tasted disgustingly, and the assembly concluded that the fruit would not ripen in Europe. The gardener pulled up the plants and burned them. A gentleman, who chanced to be present, stepped on one of the baked potatoes as it lay in the ashes, when it broke open, and he noticed that it was white as snow, and mealy, and had such an agreeable smell that he tasted it and found it very palatable. The new vegetable was thus rescued; but for a century after it was only cultivated in his garden, and in 1600 the Queen of England made the remark in her house-book that a pound of potatoes cost two shillings—about fifty cents!

Practical Floriculture.

A new edition of this has been issued, containing revisions by Peter Henderson and the addition of a chapter on grape culture under glass, by Hugh Wilson of Salem, Mass.

The editorial part of the work has been well done, and Mr. Henderson may feel well satisfied with the successful popularity of the book; but the printer, binder and paper maker have not dressed it up as well as it deserves.

Catalogues.

We thank our numerous friends for their catalogues, which are useful and many of them elegant. We are unable to make special notices of them, as our space is very crowded. We prefer to give our readers a feast of "*good things*," in the shape of excellent reading and practical hints.

The Centennial.

Only four million dollars wanted to complete the Centennial, Philadelphia's greatest pride. Congress refuses its appropriation; likewise New York, and only Massachusetts and New Jersey mean to do anything of public good will. The latter State has voted \$200,000, we believe, in aid of the building. In the meantime, Philadelphia asks of the New York horticulturists what they will do, and they get no answer—not even an echo. Alas, we fear they never will. New York is so large, it has little or no local interest in its own affairs, and not a particle in that of other cities. As long as it is impossible to maintain a successful horticultural society in New York city, so long is it impossible to expect any help to the meritorious project of Philadelphia centennial horticulture.

In the meantime, the Philadelphia committee have reported; grand ideas are advanced. Progress is prospectively splendid, and the buildings to be erected are fine. Among the plans are a beautiful conservatory for the display of plants, and especially palms and tropical plants. It is to be fitted up with fountains, rock-work, aquariums, hanging-baskets, fern-cases, vases with growing plants, garden statuary and window gardening—not to speak of the necessary settees and grottos, where couples can do their courting quietly and unseen. This chief conservatory is to be seventy-five feet wide, 300 feet long, seventy-five feet high, with greenhouse attached thirty feet wide and ten feet or more high. Likewise, a cold grapery, span-roofed, thirty to forty feet wide and 100 feet long, to exhibit forcing grape growing under glass. Also, fruit-house showing the culture of hardy fruits under glass.

Outside the glass-houses is to be laid out a splendid garden, with all species of floral decoration and ornamental plants; among the most curious of which will be the *Pinelum* of Josiah Hoopes.

To all which we say, success. Horticulturists will willingly contribute plants and help with advice, counsel and comfort—but won't invest any dollars. Such, we believe, is the

state of feeling, as far as we can learn from sources outside of the *Centennial City*. Philadelphia has already done her utmost. It hardly seems possible to do more. Either the plans must be brought down within the means now in hand or the great Centennial must adjourn *sine die*. But beyond the immediate influences of Philadelphia interests, no city will contribute a dollar to help add to the glory of a rival.

Popular Science.

Flowers in the Tropics.—Winwood Reade says, that, even for a man of science, there is much that is disappointing in the tropics. At home we see the beautiful flowers of the torrid zone massed together in the greenhouses, but nowhere in Africa, Brazil or the Indian Archipelago, can we find such a luxury of color as that displayed by field and forest vegetation in England and the United States. And similarly with insects. The entomologist soon discovers that fewer insects are visible in the tropical woods than in English groves or meadows. He is not disappointed in the ants, however, of which there are many species, each in some way annoying to man. The white ants of Africa are especially destructive to the woodwork of houses. "It is related of a resident upon the coast that, on going home for a few months, he locked up his house instead of lending it to an acquaintance, as is usually done. But the selfish old gentleman thought that his furniture would keep better for not being used. When he returned he unlocked his front door and gave a push. *His hand went through*. Ditto with all the other doors of his house. Such are the white ants."

Transportation of Seeds.—Experiments on the transportation of seeds by ocean currents have been made recently by M. Thuret, at Antibes, a town in the south of France, near Nice. Only two kinds of bare seeds would float, out of the two hundred and fifty-one kinds which were tested. M. Thuret also immersed twenty-four species of seeds in

sea-water, to ascertain its effect upon their vitality. After one year's immersion, three of them germinated as well as dry seeds.

Uses of Humble-bees.—Humble-bees are needed in New Zealand to fertilize the red clover which has been introduced into the colony. It is proposed to import nests of them from England, using ice to keep them dormant during the voyage.

Number of Lepidoptera in the World.—Peter Maassen has recently read a paper in which he computes the number of Lepidoptera at 29,740; but *Scientific Opinion* estimates it at 227,240 species.

Preserving Cut Flowers.—In a letter to the French Society of Horticulture, a chemist, M. Fremont, mentions that a good way of *preserving cut flowers* in a state of freshness is to dissolve sal-ammoniac, or chlorhydrate of ammonia, with the water in which the stems are put, in the proportion of five grammes per liter of water. They will thus often be kept fresh for a fortnight. The experiment is one which can be easily made.

Fertilizing Plants Artificially.—It is announced from Vienna that a process indicated by M. Hooibrenk, for *facilitating the fertilization of plants*, has proved successful in the Botanical Gardens there. The process consists simply in touching the end of the pistil—that is, the stigma—in a flower, with a pencil dipped in honey, or, better, in honey having mixed with it some pollen of the plant operated upon. A Hibiscus Mexicanum which had never yielded fruit, having undergone this treatment, produced quite a large quantity of good seeds. With several fruit trees the process also succeeded. Further, after operating on certain branches only of trees which did not yield fruit, it was found that fruit developed and was formed on these, while the branches left in the natural state gave none. The effect, if real, may be explained by supposing that the honey retains the pollen grains on the stigma, and thus favors the formation of a pollen tube, which is indispensable to the fertilization.



A. GARDEN DECORATION,
Statuary surrounded with Ornamental Plants.



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Special Contributions.

The Progress and Influence of Rural Pursuits.

BY MARSHALL P. WILDER,

President of the American Pomological Society.

ONE of the most gratifying evidences of progress and refinement, is the general love and appreciation of fruits and flowers. These have been too often considered as the mere superfluities of life, but the more we are brought into communion with them, the more shall we realize those pure and refined sensations which inspire the soul with love and devotion to Him who clothes the fields with a radiance, to which Solomon in all his glory could only aspire.

The cultivation of the garden, the ornamental planting of our grounds, and the general use of flowers afford striking proof of the high state of civilization which marks the progress of the present age. Within our own recollection the use of flowers at funerals was

deemed improper, nor was their appearance in the sanctuary greeted with pleasure. They were thought to be inconsistent with the proprieties of divine worship, as diverting the mind, and detracting from the solemnity of the occasion. God was not seen in flowers, in the rose, nor the lily of the valley. From the lovely forms and various hues of flowers, the glories and joys of the garden, the royal psalmist has derived some of the highest types of inspiration. We cannot therefore too highly or gratefully appreciate that divine wisdom and benevolence which has surrounded us with these manifestations of his perfection and glory, these beautiful creations,—

“Mingled and made by love, to one great end.”

Some of the most touching and beautiful, some of the most sacred and sublime inspirations of Scripture have been drawn from scenes in the garden. Nor has the imagination of the poet, philosopher or psalmist, ever conceived of any spot more chastening, more refining or more hallowed in its influence:—

"Though in heaven the trees
Of life, ambrosial fruitage bear, and vines
Yield nectar; though from off the boughs, each
morn
We brush mellifluous dew; yet God hath here
Varied his bounty so with new delights,
As may compare with heaven."

In no department of cultivation is improvement of taste to be more distinctly seen, than in the decoration of our grounds and the universal love of trees and plants. Many of your readers can remember the time when there were but few greenhouses in our country. Now, conservatories and other plant structures are to be seen in almost all our populous towns and villages, and so much has the taste and demand for plants and flowers increased, that many are devoted to special culture of the rose, the violet, or some other plant. Nor is this taste confined to the rich or middling class. Now almost every dwelling has its grape-vine or fruit-tree, its woodbine, scarlet-runner or morning-glory. Even window-gardening has become a science, and few are so poor that their homes may not be lit up with the cheering influence of plant or flower, and their windows become more hallowed by the sweet influences of nature's bloom, than by the gaudy pageant-pane which perpetuates the name of a saint,—perhaps a sinner too. My heart has often been touched with tenderness and sympathy, when I have seen the poor laborer, after a hard day's work, carrying under his arm a rose or geranium, to cheer and solace the wife and weans at home. These are the outer manifestations of the desires of the soul for that fairer and better clime where flowers shall never fade—the secret yearnings for that paradise beyond the skies which shall never be lost again.

Flowers are the embodiment of beauty; flowers are like angel spirits ministering to the finest sensibilities of our nature, often inspiring us with thoughts, which, like the unexpressed prayer, lie too deep for utterance. God speaks by flowers and plants and trees, as well as by the lips of his prophets and priests. So felt Bacon, who desired always to have flowers before him when exploring the mysteries of that divine philosophy which has

made his name immortal. Flowers have a language, and like the starry firmament above, proclaim his handiwork and glory. God has imprinted a language on every leaf that flutters in the breeze, on every flower that unfolds its virgin bosom to the sun, teaching us the great lesson of his wisdom, perfection and glory. How beautifully does the English bard express this sentiment,—

"Your voiceless lips, O flowers, are living preachers;

Each cup a pulpit, and each leaf a book."

Who would not listen to their teachings! who would not live with them forever! How intimately do they enter into our joys and affections! With what tenderness does Milton describe the sorrow of our mother Eve when bidding farewell to her flowers in Eden,—

"O flowers

That never will in other climate grow,
My early visitation and my last
At even, which I bred up with tender hand
From the first opening bud, and gave ye names;
Who now shall rear ye to the sun, or rank
Your tribes, and water from the ambrosial fount?"

The refining and chastening influence of woman, which so signally characterizes the progress of civilization, is especially to be seen in her love for the cultivation of fruits and flowers, and the adornment of "sweet home." It is but a few years since woman was permitted to grace the festive board of our agricultural and horticultural exhibitions. Now, no occasion of this kind is deemed complete without her presence. Formerly our tables were surrounded only with the stalks of humanity; now, they are adorned with the flowers of female loveliness, not "born to blush unseen." Nor is this all; she is now among our most successful cultivators, training with tenderness and care plants as delicate as her own person. Welcome woman, then, we say, to these festal occasions, to the grounds we cultivate, to our gardens and greenhouses, to all the beauties of nature and the pleasures of art, and to a paradise regained on earth.

Another strong evidence of the progress of refined taste and culture is seen in the establishment of our cemeteries, and the improve-

ment of our burying-grounds. These once neglected and gloomy resting places of the dead, casting terror and horror on the minds of children and youth, are fast giving way to the shady retreats and sylvan scenes of the wood and forest. Where, formerly, decaying grass, tangled weeds and moss-covered tablets were generally to be seen, now may be witnessed beautiful natural scenery and embellished lots, which awaken sensations that no language can describe, where the meandering path leads to the spot in which rest the remains of the loved and lost of earth—where the rustling pine mournfully sighs in the passing breeze, the willow weeps in responsive grief, and the evergreen cypress, breathing in perennial life, is a fit emblem of those celestial fields, where the leaf shall never wither, the flower never fade, and fruition never end.

I know of no better temporal acquisition than a happy rural home,—a home where you may sit amid the fruiting of your trees and the blooming of your plants,—a home embellished by your own taste, and endeared by pleasures shared with the loved ones of your family—a happy country home, where you may find enjoyment, not in hungry greed for gold, not in the conflicts for political distinction, not in the strife for place, power or renown. For more than fifty years I have trod the crowded marts of trade and commerce; I have shared in the privileges and perplexities of public service, and I have enjoyed the soul-reviving sympathy of family and friends, but I have never forgotten my first love for rural life. Whenever I could rescue a little time from the cares of business—whether at rosy morn, golden noon or declining day, I have fled to the garden and greenhouse, to my favorite trees and plants, that I might commune and co-operate with nature in her secret laboratory of wonder-working power. This is my idea of a happy, rural home; and this is my idea of a happy man,—he who is contented with fruits and flowers reared by his own care, with congenial friends, and a good conscience towards God and his fellow men. And it has ever appeared to me that contentment and

happiness were easily to be acquired by all who really love the cultivation of these lovely objects. And let me add, that I know of no more grateful, and I was about to say, devotional feelings, than those which we enjoy at the close of a quiet Sabbath summer day, when, with wife and children, we stroll along the bordered flowery walks, or sit in sweet converse under the umbrageous trees your hands have planted, just as the declining sun is fringing the horizon with rosy promise of a fairer to-morrow, and parting day is hushing universal nature to repose.

Planting Strawberries.—A writer in the *Cottage Gardener* describes a method by which he obtains early results from planting strawberries. He first allowed the runners to form a mass of rooted plants; these he took up with a spade, three inches deep, and in blocks nine inches square, the work being neatly done by cutting them by lines. In a well prepared bed, these blocks were set eighteen inches apart, in trenches dug two feet apart. The roots not being injured in the least, the crop was excellent. We have adopted a similar plan, cutting smaller blocks, with single strong plants to each. They were set out in spring, and the plants being checked none, the bed bore a fair crop of ripe berries, six weeks after setting. If the operation is well performed, beds might be set in autumn without danger of the plants suffering by the freezing of winter, a slight covering of evergreens being given.—*Country Gentleman*.

Fuchsia Seed.—A party visiting a fuchsia house, on one of the seed farms of Europe, was asked to guess the weight of seed procured from that one house—about ten by thirty feet in size. Twenty, ten, and even as little as one pound were suggested, but the fact proved that the entire product was only *one quarter of an ounce*.

A Peach orchard in Maryland contains 1,013 acres. At the height of the past season 600 hands were employed in picking, paring and canning the fruit, and the daily work was about 4,000 baskets, or 30,000 cans.

The Greenhouse.

Greenhouse for May.

THE season having now arrived for planting out many of the plants stored in the house for the winter season, the remaining plants can be thinned and others grown on for summer decoration. It is a mistake to cram as many plants into a house as will stand, at any time; but in the most extensive houses we generally find ourselves crowded during the winter and spring; this is more especially the case when houses are limited; but there is no excuse for over-crowding in the summer, for a few well-grown plants will give much more pleasure than a house full of awkward plants.

Such plants as myrtles, diosmas, heaths and acacias, are best placed in a shaded spot, protected from wind, but not under drip from trees, with bricks or coal ashes under pots to prevent worms entering. It is best to take a dull, damp day for this work, the plants are then not so likely to suffer from the change, and for a few nights previous there should be air in the house continually. These plants are usually best outside, after the middle of May. Camellias, in pots, are also best outside, after the buds are set, which is usually later in the season; if these plants do not flower as early as desirable, now is the time to force them by giving a brisk heat and plenty of moisture. It is surprising how quick the growth is complete and the buds formed. After this the plants are best outside, for the summer.

Azaleas it is best to keep inside if there is spare room; the plants are more under command, but if turned out they require strict attention in watering, often requiring it several times in a day; and care must be taken that there are no weeds and rubbish at hand; this is usually a first rate nursery for thrip and red spider, which often does much mischief before noticed; but with attention to these points, plants required to make but one growth in a season, are as well outside as in, if room is scarce after the buds are set; but

young plants which are required to make specimens in as short time as possible, should be grown in-doors, with plenty of heat and moisture, the shoots kept stopped, and the second growth will flower as well as the first.

Green Fly.—If, by oversight, any plants have green fly, give them a good fumigating with tobacco, two or three nights in succession, before removing them outside. We mention this, for sometimes it is inconvenient to fumigate when required—such as when a number of plants are in flower in the house, the smoke would spoil the flowers—but all plants should be free from insects before planting outside, or the plants will be much checked by their ravages before they can make a free start.

If the stock of any desirable variety of coleus is short, it is yet time to propagate; the cuttings will root in a few days and be ready to plant out by the end of the month, which is quite early enough in this district. Any late bouvardias should be potted at once, to be planted out at same time. Balsams, amaranthus, castor-oil plants, and thunbergias, grown on in readiness for outside—a few of the two former are useful as pot plants for the greenhouse—and the thunbergias are a pretty basket plant, but very subject to red spider.

Hanging Baskets.—Baskets should be filled, both for greenhouse and also for any outside place required. Many of those filled for sale are not a success for permanent decoration; we do not blame the trade for this, for the buyer requires the basket to look well filled at once, for which reason there are usually about four times as many plants in it as can possibly grow, and in many cases there is only room for a good handful of soil, so that it is dry most of the time; we also often see plants in a quart basket which if allowed full space would fill a bushel. We will name a few desirable plants which will do well in moderate sized baskets: The best ivy is Japonica versicolor, this is also quite hardy here. Ivy-leaved geranium, l'Elegant, Abutilon vexillarium pictum, Torenia Asiatica, Panicum variegatum, Achyranthos of sorts, Cineraria

maritima, Peristrophe angustifolium variegatum, Begonia Sandersoni, Digswelliana, Parnelli, and, if required, some of the moderate sized foliaged begonias; but these grow too large for baskets generally, and so do coleus. For baskets in full sun nothing is more satisfactory than the Echeverias, Sempervivums and the new Othonna crassifolia; this latter plant will flower all the year. These plants can be used in the most simple and cheap baskets if filled in the way we have mentioned in a previous number for achimenes. Some of the ferns, and also Selaginellas also, make nice baskets for a shady position, but these are never very satisfactory if exposed to the sun or a dry atmosphere; among the best are Davallias, Lygodiums, Nephrolepis, Niphololus lingua, Oleandra nodosa, Onychium japonicum, several Polypodeum adiantums and Selaginellas Martensii and Martensii variegatum, Cassia, and Cassia arborea denticulata, Galeottia, stoloniferum and rubricaulis.

Caladiums may be potted at once into the sized pot it is intended to grow them through the season; as soon as the first pot is well filled with roots the plants should have plenty of room, for if planted too close the foliage is drawn up long and upright, so that it is never so handsome; the color of the leaves are best under a moderate shade from bright sun.

Double White Primulas should be removed to a cold frame under a north wall, for these are difficult plants to keep well through the summer, in this climate; it is too hot and dry.

Begonias.

BY HIBERNICA, CINCINNATI, OHIO.

A FEW, among your many readers, are already acquainted with the many species of the begonia. To those who have not, as yet, formed acquaintance with Begonia Glaucophylla Scandens, I particularly address myself. The plant in question was received by me, among a large package of others, direct from the greenhouses of Peter Henderson's, at Jersey City Heights, N. J.; and, strange to say, after coming seven hundred miles, it still

retained its sound vitality and natural freshness, and appeared as if it had only a moment before been removed from the humid enclosure of the greenhouse. I always feel an unbounded sensation of joy on opening a box of plants that comes a distance; one plant after another is removed from its damp, mossy surroundings, with the same joy that a poverty-stricken heir would feel in diving after the unknown treasures of a deceased ancestor. We horticulturists have our own joys, our surprises and sensations—those plants we receive and those already in our collections, look at us meaningly and make known their wants in mute significance. This little new and improved foreigner did not show any indication of wanting for anything; its thick, soft, large, healthy and dark, glossy green foliage and pink white tinted petals indicated to us that its mission and duty was to give delight and pleasure to its owners. To maintain its prolific buds and truly beautiful foliage, I knew but too well that it required special attention. With this belief I removed its damp, mossy wrappings, thence transferred it into a well drained pot of rich, sandy loam and leaf mould, and placed it in a temperature averaging fifty-five and sixty degrees, in the conservatory adjoining our sitting-room. And now, I will say a word or two on the appearance it presented in pot. There were no orange and red veinings on the under side of the leaf such as characterize the older species of the same family; the shade of the foliage is perfectly green and glossy throughout; the leaf-stem grows laterally upward, forming where it spreads into leaf a graceful curve, similar to the neck of a swan; from this curve the leaf droops gently, the edges of the lower touching the rim of the pot and partially concealing the surface of the soil. In this way it forms a picturesque Mansard roof of foliage, and, to use a familiar expression, it is as broad as it is high. The peduncle is produced at the second and third joint and branches into several small stems, from which a profusion of delicate pink buds, tinted with white, droop pleasingly over the foliage, and reflect their colors on the glassy leaves. The buds,

before the petals open, have the form and appearance of a shield, and I am convinced that they contain substances such as bees love to abstract from flowers, as I noticed that a bee that found its way into the conservatory, preferred the open cup of this begonia to the blooms of other plants that abounded, it being the first bee of the season too.

The ladies were so much delighted with this handsome plant that they had it removed and placed among other pet flowers in their window gardens. It did not seem to be the least displeased for its removal from one situation to another; and I find that it possesses peculiar qualities of its own in not being so tender and less sensitive to rude treatment than other specimens of the same family. Scarcely had the petals on the first peduncle shown signs of decay, than another of a more prepossessing and vigorous appearance had emanated at joint second from top, and was making rapid progress to succeed the decaying blossoms of the first. *B. Glaucophylla scandens* is not entirely new, but it is less known than it should be; some of my horticultural friends assure me that it is the finest begonia in cultivation, and deserves a place in every plant collection.

Mesembryanthemum Cordifolium Variegatum, Sowing.—The seed should be sown in light, sandy soil, which should be watered before sowing, allowed to stand for a few hours and again watered, and when settled, sow the seed, covering it very lightly with fine soil or silver sand. Place in a cucumber frame or hot-bed, and near the glass, and when the seedlings appear, remove at once to a light and airy position in the warm greenhouse. Do not water overhead but through the spout of the watering-pot, pouring the water on a piece of crock or slate that may be placed in the pot amongst the seedlings. Very little water is required whilst they are young, or, indeed, at any state; all they require is to be kept from becoming limp. Pot off singly when they are large enough to handle.—*Journal of Horticulture.*

Lygodium flexuosum.—This has been very generally introduced in this city the past winter, and rapidly became a favorite with the

ladies for their window gardens. Most of the first plants came from the greenhouses of Olm Bros., who seem to have had splendid success in growing this as well as other rare and delicate plants.

The leaves are palmated, perhaps two to three inches long and less than half an inch wide; delicately cut edges, apparently embroidered. It grows six to ten feet in one season, and, once carried to the window and trained up the white lace curtains, makes a splendid contrast. Trained around a picture frame or hanging gracefully over an easel, the long, swaying stems and branches make it well adapted for parlor gardening. It must be watered regularly and plentifully. It will keep green all winter, after which cut off the old growth, put away until wanted, when start new again.

Sale of Orchids.—At a recent sale of new and rare orchids at J. C. Stevens', in London, *Oncidium Zebrinum* sold for \$7; *Odontoglossum Hallii* for \$17.50; *Oncidium amulum* and *superbiens*, each \$17.50; *Odontoglossum coronarium* \$10. Of the tree ferns, the highest price was \$18, for a *Cyathea dealbata*, having a trunk two feet nine inches high. At a later sale, Mr. Stevens realized, from 500 lots of orchids, \$3,500. *Dendrobium Jasnerianum* sold at from \$4 to \$10 per lot; *Caelogyne* (Pleione) *Reichenbachiana* from \$6 to \$11; *Saccolabium Blumei majus*, a strong plant, \$10.50; two of *Odontoglossum Roezlii* \$25, and *Saccolabium praemorsum* for \$13.

Marshal Niel Roses.—There is a greenhouse near Jamaica, L. I., 50 by 250 feet, entirely devoted to the culture of this single variety of roses. Its rafters and lights are loaded and hung with the abundant blossoms, making a sight unequalled in attraction, and, perhaps, may be classed the finest single rose house in the United States.

Greenhouse Climbers.—"I grow, for the sake of their foliage, *Cissus discolor*, *Vitis gongyloides* and *Batis paniculata*. The vitis has a novel, tropical appearance and sends out slender, aerial roots, from five to eight feet long, which droop gracefully amongst the other

vegetation. As regards flowering climbers, nothing surpasses *Stephanotis floribunda* (white), *Dipladenia amabilis* and *D. signis* (deep rose), *Allamanda Hendersonii*, and *A. grandiflora*, or *A. nobilis* (yellow).

For windows, a few plants of *Tropaeolum Lobbianum* may be trained on wires or string, near the glass, and will flower freely. *Rondeletia speciosa* is another valuable winter-flowering stove plant that does well treated as a climber. For potting, use a fresh, open compost of peat, fibrous loam, leaf mould and sand."—*The Garden*.

Ferns for Bouquets.—Choose *Adiantum cuneatum* and *Pteris serrulata*, two of the very best of *A. cuneatum*. There is an elegant variety named *A. gracillimum* (elegantissimum), a kind with finer fronds than those of the species. There is also a variety of *Pteris serrulata*, the divisions of which are finely crisped. Several of the Davallias are useful for such work and last long in good condition in a cut state, especially if dipped in water before they are used. Of these the best are *Davallia bullata* and *B. dissecta*; but the common hare's foot (*D. canariensis*), and *D. elata*, come in very usefully for such purposes. *Adiantum Farlyense*, *A. capillus veneris*, *A. tenerum*, *A. tinctorum*, *A. colpodium* and *A. assimile* all yield good fronds for bouquet making.—*The Garden*.

Miniature Ferns amongst Orchids.—Miniature ferns of all sorts are always objects of admiration, especially those of adiantum or Maiden hair type. A very interesting feature of these ferns appeared in our Orchid house. From lack of space elsewhere, we have been growing a quantity of ferns, principally *Adiantums* and *Gymnogrammas*, on the back shelves of the structure, the spores from which have wafted among the orchids; the result is an abundant and spontaneous growth of young ferns. The effect produced by these on the pyramids of sphagnum on which the aerides, saccolabiums, etc., are placed, is exquisite. *Adiantums* remain very dwarf when their nourishment is confined to moss alone. *Gymnogrammas* are not so elegant, the fronds being larger, and they do not droop over in

the same graceful manner. *Vanda* baskets are finely furnished, and rendered very pretty in this way. Indeed the whole are so much improved—bare mounds adorned and offensive baskets hid—that I would recommend those who may not be so fortunate as to attain such a voluntary embellishment, to place a few spores of the old and useful adiantum amongst some of their orchids and try the effect.—*The Gardeners' Chronicle*

Variegated Abutilons.—Allow me to recommend to the notice of your readers a variegated form of the *Duc de Malakoff Abutilon* which is in every way superior to *Thomsonii*. The former has a much larger leaf than that of the last named kind, is more beautifully marbled, a stronger grower, and the flower is much darker in color than that of *Thomsonii*.

One of the most charming Abutilons, however, and probably the most useful for bedding purposes, especially as an edging plant, to be pegged into form, or to grow down and cover a sloping edge of some nine to twelve inches deep, or as a carpet plant, or for baskets, is *Abutilon vexillarium*, a real creeping variety, having a habit of growth much like that of ivy. It has small, pointed and richly marbled leaves, that are most effective in color; it is also a free-growing kind which can be readily propagated, and is moderately hardy. Those who have large quantities of plants to bed out yearly, will do well to make a note of this variety, which I am certain will prove everything desired, in its peculiar color, for the purposes mentioned.—*Garden*.

A Beautiful Rose.—The *London Gardeners' Magazine* describes a rose now growing at Mr. Harrison's nursery at Darlington, which is certainly a beauty. The tree is three years old, budded on the Manetti stock, but is now growing on both the Manetti and its own roots. It covers eight lights four feet broad by ten feet long. The house is spanned roof. This spring Mr. Harrison has cut about two thousand roses, and a third crop is now approaching maturity. These blooms find a ready market. In early spring they sell at sixpence each. Two thousand blooms at three-pence each would produce £25.

The Flower Garden.

Flower Garden for May.

THIS is the most important month in the year in this department, as the beauty or otherwise of the arrangement for the summer and autumn depends on the time and manner of planting.

Lawns.—It is not too late to increase the vigor of the turf by giving a dressing, sowed broadcast, of salt and guano, at the rate of two hundred of the former to one of the latter per acre; the grass will not burn up so soon after this dressing, but the best managed lawn, unless it is frequently watered will not continue green and fresh through our hot summer, but by careful management may be kept fresher than is often seen. We noticed some beautiful green turf in the neighborhood of Boston, after a very dry summer.

Verbenas.—If not already planted no time should be lost in doing so, also Chrysanthemums and Carnations for lifting in autumn for winter flowering in-doors; there is nothing gained by planting out tender plants before the 20th of the month, and if it is very dry with cold nights it is better postponed for a few days later; if the plants are well looked after for water and not kept too warm and tender, they will take to the ground better by waiting a few days than if exposed to a dry cutting wind when first planted. Where there is but a moderate quantity to plant, it is generally possible to pick a still, damp or dull day when there is promise of rain.

Transplanting.—Rules for turning plants into open ground will be useful to some of our readers. Always see the soil is thoroughly moist in the pots, if not it is difficult to turn the plants out without breaking the roots, and the old ball of soil will remain dry after frequent waterings. Make the soil thoroughly firm round the roots, for them to strike at once into the fresh soil; if necessary to water the plants after planting, do it with a spout not wetting the soil all over the ground; this only cools the soil without giving the plants

any benefit, and the soil is seldom dry far below the surface at this season. If the beds were well turned up in the fall, which should always be done at the same time adding any fresh soil or manure required, nothing more will be required but stirring up with a fork, which should be done a few days before planting, to allow the sun to warm the soil. We shall infer that it has been previously decided how the most prominent beds are to be planted, and the requisite number of plants prepared for each, so we have nothing to do but bring the plants out and plant them at once, for the less time pot plants are standing about before planting the better, as in a very short time they get dust dry and the roots suffer. We mention this from noticing very enthusiastic amateurs taking out a quantity of plants in the morning and leaving a number unplanted until perhaps the next day, and then planting when the pots were dust dry.

Flower Beds.—There are but few regular designed flower gardens in this country, which is generally the best style, for it gives a freer system of planting. One of the prettiest we have seen was at Mr. Hunnewell's at Wellesley, near Boston; in this the variegated Geraniums were growing better than we had seen since leaving England, and the Alternantheras of course were perfect. Where these regular designs have to be planted, the carpet system of bedding is the best, using chiefly dwarf foliage plants, such as Coleus with perhaps a Musa or large Canna in the center, and edged with Cinerarias, Maritima or Centaurea, other beds Alternantheras, and others Echeverias, such as metallica in the center, and secunda glauca, or rosacea for an edging; this last is a great improvement on secunda glauca; when the new farinosa is plentiful enough it will also be much used for this purpose. We have already Cotyledon orbiculata and Pachyphytum bracteosum, both good as frosted succulents, taking the same place among these plants as Centaurea does among the foliage plants.

Where the flower garden consists of beds placed in irregular positions about the lawn, it is a simple matter to plant these, for usually

each bed stands on its own merits, and no two need be planted with the same style of plants, unless there are match beds by the side of walks, then it is best to plant things of the same habit of growth and nearly the same color, but it also gives space for more variety of plants.

I may here note that for this system of beds, circles and ovals are the best shape, and also the easiest to plant; although there is the best subtropical gardening in Europe to be seen in the Battersea Park near London, a number of long narrow beds of Canna, these reminded us too much of nursery beds, tall foliage plants not being adapted for square, angular beds any better than Cedars would be.

A circle six or eight feet in diameter looks well, planted with moderate growing Cannas, and Gladiolus between; the spikes of flowers from the latter with the foliage of the former make a capital combination; it is not necessary to use the scarce varieties of Gladiolus for this purpose; years ago we used *Brenchleyensis*, and that or any other bright colored variety would look best; we have tried bright colored flowers, but these were not so satisfactory; by the time the Gladiolus flowers were over, the Cannas were in full flower.

A single plant of Castor Oil is a capital center for a circle, and may be planted round with *Coleus*, *Tritomas* or New Zealand Flax. Another good center plant is the giant hemp, *Cannabus Giganteus*. We have not seen this in this country, but it is raised from seeds, which probably can be obtained through any of the large seedsmen; the leaves of the hemp are the same shape as Castor Oil leaves, but a bright green, and smaller but more numerous; it grows from eight to ten feet high. It will be late to sow them now, although the plant vegetates rapidly; it is best sown where intended to remain.

The *Wigandia* was at one time popular as a foliage plant in Europe, but it was not a satisfactory plant, being neither graceful nor elegant; it grows very freely in this climate, and with liberal treatment makes very large leaves.

A capital center to a large circle, say eight-

een to twenty feet in diameter, is either a large plant of *Aralia Sieboldii* or Castor Oil, surrounded by six plants of *Arundo Donax Versicolor*, then a double row of *Salvia Splendens* planted about two feet apart, then a row of *Abutilon Thompsonii*, and edged with *Ageratum Caelestinum*; this is a splendid bed until the frost destroys its beauty.

The Madagascar Periwinkles are very showy plants, especially for a row in a ribbon border; these can be readily raised from seeds, but our experience of seedlings has been of the rose colored variety and also the white, and white with rose eye, and grown together that many of the seedlings come of mixed color, which are seldom so good as the original. The plants can be raised from cuttings but require wintering in a warm house. A good plant of *Humea Elegans* is fine for the center of a circular bed or as a single specimen planted in the grass, its graceful feathery sprays of red flowers make it a good contrast to Pampas Grass; and the bed this is planted in may be filled with large plants of Mountain of Snow Geranium, or any other variety which has been proved useful for bedding in any locality. We hesitate to recommend variegated Geraniums, for in our hot summer they are so seldom satisfactory. It should be noticed that the *Humea* requires abundance of water, so that when planted the soil should form a basin round the plant that will contain several gallons of water; if allowed to get very dry it will soon lose its best foliage and look thin and poor.

The variegated *Arundo* is a good center for a circle, but should have about six plants together to be surrounded by either a bright flowering plant, or a bright colored, dark variety of *Coleus*; but as a large mass at the back of a wide border or near water it shows to the best advantage.

A large irregular bed, to fill a corner, can be planted in patches of any large, rough specimens of *Abutilon Thompsonii*, tall Cannas, *Arundo*, *Bambusa*, *Aralia Sieboldii*, *Aralia papyrifera*, *Gymnothrix latifolia* and such like plants, taking care to have the tallest growers at the widest and most distant

parts, and edging with a row of *Coleus Verschaffeltii* and a row of *Acoeme japonica variegata*. This combination is very easy to plant, as it can be made a receptacle for odds and ends of various plants, which taken individually would look poor, but as a whole are very pleasing.

Caladiums should not be planted until quite the end of the month, and if possible select a still, dull day if the foliage is much advanced. These plants are most satisfactorily planted in a sheltered position. We often have them very fine, planted in full sun and wind, but they do not start away so well at first. If the *Esculentum* varieties are planted in the same place with the smaller varieties, it must be recollected that this one will make leaves five feet or more in length, and would smother a few dozen smaller plants if planted too close. It is often desirable to plant single plants, as specimens, on the lawn in positions where a bed would be out of place. In some cases it is best to keep the plants in pots or tubs, but, if possible, it is best to turn them out, the plants will then generally take care of themselves. If they have to remain in tubs the plants are then best standing in proximity to buildings or on walks, for they never look well standing on turf, and to sink the tub into the ground decays it in a short time, but large pots can be buried so that the plant only is seen.

The *Dracena Tridivisa* is a splendid specimen lawn plant, in fact one of the best; it has lived out through the winter in a few sheltered places in England, so that it is not a tender plant. *Latania*, *Borbonica*, *Corypha australis*, *Seaforthia elegans*, *Chamerops excelsa*, and several other Palms also do well for this purpose, but should be kept quite cool during the winter, for if there are young tender leaves on the plants they will be sure to suffer.

Agaves and *Yuccas* are among the best plants for single specimens in this climate, and many varieties may be housed in the cellar during winter. Many of the rare kinds are very dear. Large *Dicksonias* and *Alsophylla excelsa* are fine but require lots of water.

***Primula Japonica*.**—This very handsome plant does not appear to be so well known as it deserves in this country, for although it is not like the double Chinese varieties, useful for cut flowers, yet as a greenhouse or window plant to flower during April and May it is very handsome, and being of the easiest cultivation can be grown with little trouble by any one. It is a perennial, losing its foliage in the winter, and may be kept in a cold frame just protected from frost, for it is said to be quite hardy in England. It commences to make new leaves about February in a cool greenhouse, and the flower stems begin to show early in March, when a few flowers will usually expand before the stem is advanced above the leaves, but the first mass of bloom is not usually fully expanded until the stem is about six inches high, and will continue flowering until the stem is from eighteen inches to two feet high; it will flower well in a four-inch pot. We have plants in six-inch pots with several flower stems. It is raised from seed, and by division of the crown, but seed is uncertain, at one time growing freely and at another not growing at all. Any soil which will grow a *Rose* or *Pelargonium* will grow this plant well, with abundance of water when growing and little when at rest. Green fly sometimes trouble the young growths, and must be kept down by fumigating with tobacco.

***Lilium Kramerianum*,** a beautiful variety of the Japanese Lily has been introduced into England, which is exceedingly curious and striking. The agents, Teuschel & Co., give the following report of it: "Mr. Kramer sends it to us as a new lily, obtained a long distance from Yokohama, in the interior of Japan."

He speaks of a man as "collecting" it, and sends it in three varieties—white, pink, and a larger form of the same color, but adds *there are many startling varieties.*"

He speaks of it as "a form of *L. Auratum*. It is a delicate bulb, and travels badly, scarcely one in ten having reached us in good condition. All our bulbs have had narrow, elongated foliage, like *L. Auratum*."

Ribbon Gardening.—The following is the arrangement of the best specimens of ribbon gardening and flower beds, on the grounds of William Gray, Jr., whose place was visited by the American Pomological Society, last fall :

Center.	Edged with
Mrs. Pollock Geranium,	Emperor Napoleon Coleus.
Douglass Pearson “	Golden Pyrethrums.
Orbiculatum “	*Pyrethrums.
May Queen “	Koniga maritima var.
Coleshill “	Centaurea candida.
Centaurea gymnocarpa,	Orbiculatum Geranium.
Coleus Verschaffeltii,	Golden Pyrethrums.
Achyranthus Lindenii,	Phalaris arundi nocea picta.
Mme. Lemoine, Double Geranium,	Mountain of Snow Geranium.

The Best Geraniums.—A list of the varieties, grown by Mr. Gray, is given in the Report for 1873 of the Massachusetts Horticultural Society :

Of the *Golden Tricolors*, Mrs. Pollock has again proved superior for bedding, and the *Silver Tricolors* of little value.

Of the *Silver Edged*, the *Albion Cliff* has proved the best for bedding.

Of *Bronzes*, the *Moor*, *Harold*. and *Reine Victoria*. dwarf.

Of *Scarlets*, the *Orbiculatum*, *Coleshill*, *Gen. Grant*, *Kingcraft*, *Leonidas*, *Sir John Moore* ; and for darker shades, *Douglass Pearson* and *Wellington*.

Of the *Golden Leaved*, the *Crystal Palace Gem*.

Of *Pink*, the *May Queen* and *Master Christine*.

Best Rhododendrons.—Most of our readers will remember the grand exhibition of Rhododendrons, last summer, on Boston Common. We observe that in the report of H. Weld Fuller, a good list of the best sorts, most worthy of recommendation, is published.

Half Hardy and Tender Rhododendrons.—Of the *Light Colors* (pink, pale rose, blush and white), *Lady Armstrong*, *Stella*, *Elfrida*, *Purity*, *Concessum*, *Azureum*, *Perfection*, *Odoratum*, *Album elegans*, *Album grandiflorum* and *Lady Eleanor Cathcart*.

For *Crimson*, *Mrs. Milner*, *Fleur de Marie*, *Alarm*, *Vandyck*, *H. H. Hunnewell*, *H. W. Sargent*.

For *Blood Red*, *Atrosanguineum*.

For *Scarlet*, *Titian*, *Mrs. Bovill*, *Brayanum*.

For *Lilac*, the favorite *Everestianum* and *Fastuosum*, both great bloomers.

Hardy Rhododendrons.—If any one should ask, “Which are perfectly hardy, and desirable, and at moderate cost ?” the reply may be,

For *Blush and White*, *Cariaceum*, *Delicatissimum*, *Album elegans* and *Album grandiflorum*.

For *Rose*, *Roseum elegans* and *Hannibal*.

For *Lilac and Purple*, *Purpureum elegans*, *Purpureum grandiflorum* and *Everestianum*.

For *Late Bloomer*, *Macranthum*.

For *Blood Red Flowers* and *Fine Foliage*, *Atrosanguineum*.

For *Dark Purple*, *Lee’s Purple*.

For variety, add *Gloriosum*, *Grandiflorum*, *Giganteum*, *Coelestinum* and *Bicolor*.

The finest hardy white Rhododendron, is probably *Mrs. John Clutton*, but it is new and expensive.

New Rhododendrons.—The following new kinds were recommended by the Rhododendron Committee as being very desirable :

Charles Dickens, dark scarlet.

Caractacus, dark purplish crimson.

Mrs. R. S. Holford, rich salmon, tender.

Old Port, rich plum color, questionably hardy.

Lucidum, purplish lilac, with brown spots, tender.

Lord Clyde, intense blood color, tender.

Onslorianum, waxy blush, with yellow eye, questionably hardy.

Minnie, white, with chocolate spots, tender.

Sir Chas. Napier, rose with light center, tender.

Scipio, deep pink on edge, center light pink.

Mrs. John Waterer, deep pink at the edge, shading lighter to the center, tender.

Ribbon Beds.—One of the easiest arrangement, is that of a bed we saw at Mr. Hunnewell’s, near Boston, Mass., which is planted as follows : 1st row, Pyrethrum ; 2, Lobelia ; 3, Snow Geranium ; 4, Achyranthus ; 5, Gen. Grant Geranium ; 6, Centaurea.

Gardening.

Market Gardening.

BY J. M. SMITH, GREEN BAY, WIS.

No. 1.

THE very first question to be settled in considering this subject is, have you a market for your crops when they are raised? If yes, then have you a soil and location suitable for the purpose? A light sandy loam is perhaps the best of all soils for this purpose. You can raise as large crops upon a rich heavy loam, with a clay subsoil, as you can upon a light, sandy loam, and perhaps with less manure, but if you are upon a heavy loam and your competitor upon a light soil, though you may be equally good as cultivators, his soil will give him from one to two weeks the advantage in time. This, of course, not only gives him the high prices for the early crops, but it gives him the control of the market. Hence your success is impossible, though you may have equal advantages with him in every other respect.

Let me give you a single practical illustration of this. A number of years since, I planted my early cucumbers in a very favorable spot, and cultivated them to the best of my ability. The result was a very early, as well as a fine crop of them. I put the price at $37\frac{1}{2}$ cents per dozen, which was low enough to drive the southern ones out of the market, and as no other gardener about town had any, I had the market entirely to myself. This lasted about ten or twelve days, when some three or four other growers brought in their first picking upon the same morning. The price fell from $37\frac{1}{2}$ cents to nine cents that morning, and in two or three days they were not worth 25 cents per bushel. The result was, I made a nice profit upon my crop, while I think none of the other growers realized sufficient for theirs to pay for marketing them.

Another very important consideration is the *location*. It is far better to pay a good round price for land within one mile of the market, than to have the same kind of land given to

you two miles away. For instance, some years since a young friend of mine commenced business as a gardener and a fruit grower. He was situated upon the same road that I am, but about twice the distance, or $2\frac{1}{2}$ miles from the business portion of our city. He laid out a considerable sum of money in his preparations. He was a good grower, and an honorable young man, and I hoped to see him do well. He followed the business for two or three years, but he never seemed able to find a good market for his crops, and they were almost constantly a drug upon his hands, while my crops were always sold at a fair price. At length he came to me one day and said, "I am going out of vegetable growing entirely." "Why so?" I asked. "Well," said he, "your location gives you such an advantage, that I cannot compete with you. You can be in market a little earlier than I can, and what is still worse, a merchant or his clerk will never drive by your garden and come to mine, unless you happen to be out of the things he needs. The result is, that you control the market, and I can only get such orders as you cannot, or do not choose to fill." And this was true, though I had never by any word, or act of mine, made the least effort to crowd him out of the market. Nor is this all. The difference of only one mile in distance will make a vast difference in the team work during the year. If you have a good sized garden, say of seven or eight acres, you will probably need to average two trips per day for nearly or quite 300 days in the year. This, of course, includes the hauling of manure into your garden as well as marketing your crops. Here, then, is a difference of 1,200 miles in one year's driving. Hence, my advice is, pay a large price for land near your market, rather than take land as a gift three or four miles away.

Now we come to the business of planting and cultivation. I will take it for granted that you are provided with at least 10 cords of good manure for each acre that you propose to cultivate; and if you have 15 cords per acre, all the better. I know that some farmers will persist in farming without manure,

but I am going to try and believe that no one will be so silly as to attempt gardening without a good supply of it on hand.

Before going farther, let me give one general rule for manuring, which my own experience has shown me to be the best of any that I have ever tried. It is as follows: Spread about one-half of what you design for a given portion of land upon the top of the ground and for this take the coarsest part of the manure and plow it under. Spread the other half upon the top of the ground after plowing, drag it in with a fine tooth harrow. After this it will be necessary to rake the whole ground over with hand rakes. I lay this down not as an invariable rule, but as a general one, which of course has its exceptions.

Now comes the selection of seeds, and if there is anything more utterly bewildering to a beginner than this, I am sure that I do not know what it is. For instance, I have one volume in my library in which there are 25 varieties of onions enumerated, 34 of potatoes, 34 of squashes, 40 of beets, 42 of tomatoes, 50 of cucumbers, 54 of cabbages, 56 of turnips, 58 of corn, 84 of lettuce, 108 of beans, 115 of peas, and so on through the whole list. There is a list of twelve of our standard garden vegetables, and 700 varieties of seed to select from. Nor is this all. Not a year passes by but new varieties of each of these and many other kinds are introduced with an almost innumerable host of circulars, that would lead us to believe that we were upon the eve of some great revolution in vegetable and fruit growing.

If you attempt to introduce *all* the new kinds and varieties that are recommended to you, ruin is inevitable. Upon the other hand if you ignore all of them, you will soon find yourself lagging behind the age in improvements. Hence you perceive, that to make a good selection will require all of your good sense as well as your experience, and if you succeed then without making any mistakes, I have only to say that you will be more fortunate than I have ever been in this feature of the business.

I am tempted here to give you a list of a

few of our most prominent vegetables that have done the best with me, though it is very possible that some of them may not be the best for all parts of the state. For early onions, the common top or bunch onions: for late or main crop, the Wethersfield, Early Red Globe and the Yellow Danvers, the first named being the most hardy and the best keepers. Tomatoes: Early crop, the Early York; for late or main crop, the Tilden and the Trophy. Early cabbage, the Jersey Wakefield; for late crop, the Bergen Drumhead, if you have a heavy soil. If a light one, the Winningstadt. Early potatoes, Early Rose; late crop, the Peerless. Corn: Crosby's Early and Stowell's Evergreen for late crop. Bush beans, the Early Valentine. Peas: First crop, the Early Kent; late, the Champion of England. For fall squash, the Turban or the Boston Marrow; for winter, the Hubbard. Cucumbers, Early Frame and White Spine. Beets: The Bassano and the Egyptian for early crop, and the Blood Turnip for late crop. Strawberries: Wilson's Albany Seedling.

The above is of course a very limited assortment of seeds, and while they are standard varieties, I by no means confine myself to them, but am constantly experimenting with new varieties; still I would guard you against putting too much confidence in the representations of those who have new varieties to sell.

Well, we will suppose that we have our beds nicely prepared, with the alleys so made that they will not only carry all the surplus water off the beds, but so arranged that they will carry it entirely from the garden. No matter how early in the spring it is, if your ground is in good condition to work, you may begin planting, but plant only those kinds that will not be injured by the late spring frosts. The ground may be frozen an inch deep after peas and onions are up, without their being injured. Beets, parsnips, carrots, radishes, turnips, as well as some other plants, will endure an ordinary spring frost without injury, while beans, tomatoes, egg plant, melons, cucumbers, sweet potatoes and some others, are very sensitive to cold, and will sometimes

become so chilled by the cold air without any frost, that they will never entirely recover from it.

Putting the seeds in the ground is a small job, compared with what it was years ago. A good boy, 15 or 16 years old, with a good Harrington or Comstock seed sower, will sow an acre of ground in a day with the small seeds, and will do the work better than twenty men will do the same work by hand. Upon my light soil I sow the small seeds about an inch in depth, and of onion seed from $3\frac{1}{2}$ to 4 pounds per acre; the rows 14 inches apart; early carrots and radishes, 12 inches; beets, 16 inches; parsnips, 18 inches between the rows, and with all of them we regulate the machine so that it will drop from one to two seeds per inch in the rows, as you will find it much easier to destroy some of the young plants, than to fill the vacancies if there are not enough. Peas should be among the first of seeds in the ground. The same may be said of onions, not only for the early ones, but for the late or main crop. With regard to this crop, there are three things that are absolute necessities; and I have never yet seen what I call a good crop of onions where either of the three had been neglected. The first of these is very rich ground, the second is to get them in very early, so that they may have the cool, damp weather of spring to get started; the last requisite is thorough cultivation, and this, too, at the right time. I consider the onion crop about as sure as any crop I raise, if the conditions necessary for a good crop are complied with, but if they are not, complete failure is an almost absolute certainty. By the time these hardy, and half hardy crops are in the ground, it will be late enough to plant early potatoes and put out your early cabbage, for I am taking it for granted that you have a good set of hot-beds, or else, what is still better, a hot-house, where you have been getting a fine lot of cabbage, cauliflower and tomato plants, as well as other things, ready for the open ground as soon as the season will permit. And here let me say, that when your cabbage does not head well, four-fifths of the time, it is simply because the soil

is not strong enough to bring forward a full crop. It is possible to make a piece of land too rich for potatoes, but I have never seen a crop of cabbages injured in that way, and never expect to. Hence, don't spare the manure upon your cabbage ground. Tomatoes, egg-plant, peppers and sweet potatoes should not be put out until the ground has become warm and the spring frosts are over.

Off-hand Notes.

BY "OLD GARDENER."

THE singing of the robin and bluebird has lured me out from my cozy den, where I have been hybernating all winter long, among my dried plants, in the herbarium; and as I step my foot upon the turf, just turning green with the mildness of the early spring days, the violets, crocus, and snow-drops bid me welcome. The bright sunshine makes one feel like gardening, and this suggests a multitude of little hints that I have gained in previous years; so with your kind permission, dear editor, I will occasionally send this record of my experience, as it may occur to my mind.

The Washington Pear.—I don't see what is the matter with our pomologists nowadays, for it strikes me they are turning their backs on many of the good old-fashioned fruits, that some of us can recollect with such vivid suggestions of excellence. Now, the old trees planted by my ancestors still stand, and among them, not one, no, not even the Seckel, can exceed this delicious pear—the Washington. True, there are seasons when it does not produce largely, but then it is generally at its best, and when it is loaded heavily, the fruit does not ripen properly. A proper thinning of the crop obviates this difficulty, however, and I would then like to see the pear that will sell better in the markets or in the confectioner's window. It delights in a rather heavy soil, with a good coat of manure occasionally, and then the reward is sure.

Among the most pleasant reminiscences of my far-away boyhood days, are those pertaining to the search amidst the tall dewy grass, in early morning, for the golden treasures

that had fallen over night; and talking about golden beauties, brings to mind the old beds of

Marygold.—These are out of fashion now, suggests some modern florist; well, they may be, but the flowers are just as showy as ever they were, and I don't believe any of the novelties, with great long latin names, are any more valuable for the modern style of gardening. A circle cut in the smoothly shaven turf, and filled with the Double Yellow or Orange Marygold, and edged with an outer ring of the dwarf French striped variety, is difficult to excel. If the bed should be raised in the center, it will look better. It will bloom all summer long, and won't cost \$5 or \$10 to fill, either. Now, whilst I am talking about

Old-fashioned Flowers. let me speak a good word for a few of the old time favorites that my grandmother delighted in, and which are being hunted up—why? Because they are better than scores of the newer kinds that have usurped their places. Every one who owns a group or belt of shrubbery (and I sincerely pity the man who don't), should, in early spring, dig a few holes here and there through it, fill them with generous compost, and insert one or more Sunflowers, Castor Oil Beans, Tobacco plants, Hollyhocks, etc., wherever they will look the most appropriate. It is wonderful what a change these will effect in the mass; indeed, they seem to give a tropical aspect to its otherwise tame character. Still, on the ancient order of plants, I ask what is the reason that as soon as a citizen concludes that he has sufficient means to buy a home in the country, that the first plants he wants to set out, are

Old-fashioned Shrubs?—Yes, he is scarcely inside the nursery office before he asks if he can procure a Lilac, Snowball, Sweet-scented Shrub, Mock Orange, Corchorus, and a Honeysuckle; and I honor him for it too, for beautiful as many of the newer candidates for popular favor are, I say none of them excel, in fragrance, the Lilac and Mock Orange or Syringa.

As a background to a group of low-growing shrubs, or as a mass to conceal some unsightly

object, nothing can possibly surpass the list that I have enumerated.

As I stroll down the garden walk, my goodly row of

Currants catch my eye, all of the real old-fashioned variety, too—the Red Dutch; and I remember how a few years since I planted another row close beside it, composed of one plant of every kind I could obtain either in Europe or this country as well. Now where are they? the labels are rotted off, and the names are illegible; but I do not care, for one by one I eagerly watched for superiority, and one by one they disappointed me, and so they disappeared over the fence.

Some of them were larger than the old “stand-by,” and some were perhaps a little less tart, but the weight of fruit was always in favor of the latter, and therefore I want no other. I don't like

Gooseberries, they are insipid, tasteless fruits, at best, and as for tarts in a green state, they are tart enough themselves, to not disgrace their names. I am too poor to purchase enough sugar to make them toothsome, and even could I afford such an act of extravagance, it would not pay, for they would be nothing but Gooseberries after all. I grow a few bushes of the same kind that my grandfather did before me, and I am satisfied that I have the best; although some people call them the *Cluster*, and others the *American Seedling*, they are nothing but the old-fashioned kind, and I must have them, because—well, because folks must have Gooseberries, you know. And in fondly lingering over all the requisites to form a popular garden in the “far away times,” memory recalls the two flower beds that edged the one straight walk down the center of the enclosure. The most of the ornamental plants that used to grace these borders, have now very nearly passed away, but they have yet a place in the memories of some true lovers of the good old days, when one begged a slip of this, and a root of the other plant, and never knew what a floral establishment was intended for.

Prominently among these,

Old Border Plants was the gorgeous

Double Crimson Pæonia; now excelled in size and fragrance perhaps, but in brilliancy never; we cling to it as the antiquarian does to his old edition of some rare work, but with this difference, that while the latter is valued merely on account of its antiquity, the former has the additional merit of being as valuable to-day as ever it was. And then the old *Blue Flag*, what a host of pleasant memories the very name recalls! Here, too, the skill of the modern florist has given us an almost endless list of varieties, with every imaginable shade of color, but amidst them all the old favorite holds its place with a pertinacity that seems impossible to overcome. The *Daffys*, too, or to speak correctly, the *Narcissus*—I must not forget them, although it is not at all probable. If I had the space, I really believe I could write quite an interesting paper on this one family of plants. When massed thickly in beds, they show to much greater advantage than when placed singly in a mixed border.

A circle, for instance, filled with the Orange Phoenix, and edged with a ring of *Albus adoratus*, or Pheasant's eye, makes a superb show when in bloom and thoroughly established. And again, there is another old-fashioned bulb, the *Crown Imperial*; how seldom we see it now in cultivation, and yet how deserving it is of more notice. To be sure, the odor does not remind one of "sweet-smelling incense," but what of that? it is made to look at, not to handle. One objection is, the plants do not remove as easily as some other bulbs, but care in the transaction will overcome all difficulties.

Whilst we must acknowledge that great improvements have been made in the hardy *Garden Pinks*, still our long acquaintance with the old Pheasant-eyed variety, causes it to be more appreciated by some; and it is beautiful yet, if its new relations are finer-formed and brighter-colored. Occasionally our ancestors introduced a plant that was inclined to presume on its position, and so prove rather too familiar—such was the *Copper-colored Day Lily*. It was showy and easily cultivated, and when a gardener once had it established, the next serious question arose,

how to get rid of it, for the succeeding season, in the place of one, we were liable to have a dozen, and so on forever after, until there was no room for anything else.

In the rush for novelties, one is apt to turn his back on the old friends that are even yet worthy of his regard, hence my prolonged dissertation on their merits; and dearly as I love to test the newer introductions, there still remains, for the old-time flowers, a large corner in the grounds of an "Old Gardener."

"Kyanizing" Plant Labels.—The following method of "Kyanizing" wooden labels that are to be used on trees or in exposed places, is recommended in a German paper: Thoroughly soak the pieces of wood in a strong solution of copperas (sulphate of iron), then lay them, after they are dry, in lime water. This causes the formation of sulphate of lime, a very insoluble salt (gypsum), *in the wood*. The rapid destruction of the labels by the weather is thus prevented. Bass, mats, twine and other substances used in tying up or covering trees or plants, when treated in the same manner, are similarly preserved.

At a recent meeting of a horticultural society in Berlin, Germany, wooden labels thus treated were shown which had been constantly exposed to the weather during two years without being affected thereby.

Liquid Manure for Strawberries.—An English gardener has been very successful with his strawberry crop for several years on the same bed, and attributes the abundance and size of his fruit to the use of liquid manure, composed of one pound each Epsom salts, Glauber's salt, pearl ash and carbonate of soda, and one-half pound of muriate of ammonia to sixty gallons of water. He applies this manure as soon as the plants show signs of growth in spring, watering them pretty freely without a hose, three times, at intervals of about a week, so as to finish before they come into flower; and, if the season be dry, he finds it absolutely necessary to supply them liberally with common water afterward during the whole time of growth, or their increased activity, he thinks, would quickly kill them.

Fruit Culture.

Grape Culture in Ohio:

Its Extent, Progress and Prospects.

BY M. B. BATEHAM.

A HORTICULTURAL friend in Pennsylvania, who attended some of the pleasant meetings and excursions of our Lake Shore Grape Growers' Association, five or six years ago, writes to me for information respecting the present extent and prospects of grape culture in Ohio, and says the idea has become somewhat prevalent that the business is found to be, in the main, a failure, and many of the Catawba vineyards are abandoned.

To answer such inquiries and remove erroneous impressions, I offer the following statistics and observations, which I think will show that we have in Ohio more acres of vineyards than are in any other State of the Union; and while it is true that grape culture, here as elsewhere, has not been as uniformly successful, nor as highly profitable as was formerly anticipated, it is so far from being a failure that the planting of new vineyards is annually going on, so that the aggregate number of acres is at this time greater than ever before.

The following table of statistics is compiled from the returns of the township assessors, published annually by the Secretary of State. It is not claimed that the figures are absolutely correct, but they are believed to be not far from the truth, and where errors occur they are most commonly in the omission to report the full amounts.

The table shows the number of acres of vineyards planted, the total number of acres in the State, the pounds of grapes harvested, and gallons of wine pressed, each year, for the four years preceeding the past one:

YEAR.	Acres planted.	Total acres.	Pounds of Grapes harvested.	Gallons of Wine pressed.
1869	1,267	10,446	3,788,226	155,045
1870	804	10,899	15,853,720	2,577,907
1871	907	11,219	19,292,980	1,031,923
1872	941	12,000	9,616,427	425,923

In this table the aggregate number of acres in 1872 is partly estimated, as there is an ob-

vious error in the published returns from Ottawa county, representing the number quite too great, and swelling the aggregate to over 15,000 acres for the State; but counting the amount of planting and the increase of previous years, it is evident that the aggregate is not far from 12,000 acres. This, of course, does not include the thousands of small patches of grapes for home use, not counted as vineyards.

In regard to the amount of grapes harvested, the statistics are not of much value, for it is found that some of the assessors have understood this to include only the grapes sold or shipped to the markets, and not those pressed for wine, while others properly included both. It should also be mentioned here, that, in favorable seasons, hundreds of tons of Catawba grapes are shipped from our lake shore region, to other States, for wine making.

About one-third of the whole amount of vineyards, or 4,000 acres, are located in the counties of Ottawa and Erie (including the islands), near the west end of Lake Erie, and about 2,000 acres more in the adjoining counties of Lorain and Cuyahoga, on the lake shore, making one-half of the aggregate for the State; the balance, 6,000 acres, is pretty widely scattered, the hilly lands on the Ohio river, and in the coal regions, having a fair share. It is noticeable, too, that while there has been very little planting, and no increase at all, of late years, in the aggregate of the lake shore region, nearly all the planting and increase has been in the interior counties of the State, where small vineyards, mostly of the Concord variety, are found profitable for supplying fruit to the local markets.

Of the vineyards on the lake shore and islands, full seven-eighths are Catawba, and I should say that nine-tenths of the wine manufactured is of this variety—though there is a considerable amount of Ives and Concord wine made at Cincinnati and other towns in southern Ohio, and some at Cleveland, Sandusky and Toledo; also, small amounts of Delaware and Norton.

The business of wine making is now carried on with much more of capital and skill

than formerly, and, consequently, the product is of better quality and commands readier sale at better prices. This improvement in the domestic wine trade causes an increased demand for good grapes, independent of the fruit markets, and prevents all feeling of discouragement in the minds of those who own vineyards in favorable localities. At the prices paid by wine makers for the fruit, four to five cents per pound, the crop is found to pay better than the average of any other for which the lands are adapted. For table use, also—where the facilities for transportation are good, by steamboat or freight cars—the grape crop has paid quite well, even at the low average prices of the past three or four years.

Some vineyards have entirely failed, as was to be expected, from the want of intelligence or care in the choice of land or its preparation and planting, or in the selection of the varieties of grapes and the management of the vines. It will be seen, by the statistics, that the increase of the aggregate is only about one-half as many acres as are planted each year—the balance being offset by vineyards destroyed or abandoned.

Much injury has been sustained, especially by the Catawba and Delaware vineyards, from allowing the vines to overbear; this was particularly the case in the fruitful seasons of 1870 and '71, when many vineyards were allowed to bear as much as five or six tons of fruit to the acre. This so weakened the vines as to induce disease of the foliage, and thus they were unfitted to endure the severe cold of the winter of 1872-'73, which caused destruction of the wood in many vineyards, and the buds in the majority, so that the crop of the past season was not over about one-fourth of the usual average for the entire State, or one-third to a half in the most favorable localities.

The Sulphur Remedy.—Much interest was excited at the late annual meeting of our State Horticultural Society, by reports of recent experiments with the use of sulphur on Catawba vineyards at the islands. It was stated by one of the grape-growers from there, that

sulphuring the vines had been practiced to some extent for several years past, and that when judiciously done, it was found a certain preventive of mildew and rotting of the fruit, and also of the blighting of the foliage; and where this was practiced, in 1872, the vines ripened their wood so well as to suffer but little damage from the winter, and thus produced a half crop, while vineyards not sulphured bore no fruit at all. These facts will cause a very general use of sulphur hereafter, and much improvement is expected therefrom.

The practice is, to mix the sulphur with an equal quantity of fine air-slacked lime, and apply the powder with bellows, of which they manufacture a very cheap style for the purpose. The first application is made as soon as the blossoms are off, in June, and repeat once a month or so during the summer. The labor and expense are quite small compared with the benefits; and the practice is recommended to grape-growers generally, especially for varieties that are subject to mildew or blighting of the foliage. Let us all give the experiment a trial, and report the results next year.

Painesville, O.

Strawberries.

BY P. M. AUGUR.

FOR general culture, the Wilson undoubtedly stands pre-eminent and without a rival; probably nine-tenths of the market strawberries are of this variety.

The Jucunda, Agriculturist, Triumph de Gand and Seth Boyden, do well in suitable soils with hill culture. Next to the Wilson, and for hill culture, we think the Charles Downing one of the very best and most productive. Some cultivators of the strawberry in our State have been very successful, as follows: Prepare ground in all respects nearly as well as for a crop of tobacco. Using the Wilson, set last of May or June 1st, in rows, three feet apart; cultivate and hoe, keeping the ground clean throughout the season, but after July let the runners stock the ground well with plants, which have, in some instances, brought a gross income of from \$900 to \$1,200 per acre. The plants, after the fruit

is taken off, are turned under, and the ground turned to some other purpose; thus one good crop of choice fruit is taken from the ground, avoiding an inferior second crop.

Any system which involves suitable varieties, suitable management and good culture, will be nearly sure to yield good profit.

During the season of 1873, which will be remembered as excessively dry, one cultivator saved the crop of three and a half acres, on light soil (yielding nearly \$1,800), by watering—using a small steam boiler, pump and hose. Two and a half acres of the same field, unwatered, failed, from drouth, so as hardly to be worth picking.

Much has been said about the profit of fruit culture, but the profit usually depends on judicious management—which makes all the difference between full success or complete failure. Think of one train of twenty-three cars, going into Chicago, with one hundred tons of strawberries, and count up the thousands of markets, large and small, all over our country, and you will see that many millions of dollars result to the cultivators of this delicious fruit.

Middlefield, Conn.

Editorial Note.—The market train from Delaware to New York, in strawberry-season, has reached as high as one hundred cars, with no less than 400,000 quarts, in a single morning, while, for days, the supply averaged thirty to fifty cars, and over 100,000 quarts. The State of Delaware is the largest fruit State on the Atlantic coast; its strawberry crop of 1873 was over 3,000,000 quarts; its peaches over 3,000,000 baskets. It is the largest poultry State in the Union; the total value of poultry and eggs shipped to market is larger than all its total receipts from *fruit*. Delaware sweet potatoes command a premium of one dollar per bushel above all others.

The Wild Goose Plum

BY JAMES PARKER, SUMMIT, MISS.

THIS variety has fruited with us the past season, and it has far surpassed our expectation. It may be described as follows: Size, large oval, or egg shape; color, clear beautiful red,

almost transparent; flavor, good, and, in our estimation, a better plum than the *Red Magnum Bonum*. Some of the specimens were larger than the above named variety and more reliable, and not subject to the attacks of the Curculio. There is not the least doubt of it as a profitable market fruit. With us it is more reliable than the peach, and ripening about the same time as *Hale's Early*—that is, from the 10th to 20th of June.

Mode of Propagation.—It will be well to give a few brief hints on its propagation. We find that grafting is the best; and the stocks used are healthy one year old, seedling peach, growing in nursery rows. The best time to commence grafting is when the stocks commence to put forth their leaves in spring. We head down the stocks close to the ground, and prepare the scion in the old-fashioned style of cleft grafting, split the crown and insert the scion, tie with grafting cloth. When a row is grafted, we draw the soil carefully up to the top bud. In this way we do not lose scarcely a single one. We prefer this mode to root grafting, as we find it more successful, and, in fact, makes a more healthy and free growing tree. Last fall we tried fall grafting in a very small way, more for experiment than anything else. We grafted one dozen *Wild Goose Plums* about the last of October. They did very well, only a few died. The weather was very dry at the same time, and neglected to draw the soil to the scions. This was the cause of some of them failing. But though some success may be gained in fall grafting, we would not recommend it to any extent. The soil best adapted to plum culture is a mixture of clay and loam, with a stiff clay subsoil. And if thoroughly subsoiled before planting, no other cultivation is required, unless to keep the big weeds and grass cleared from around the trees. And, for our climate, the clump system is the best mode to be successful in the culture of the plum—that is to say, plant ten feet apart, without any regard to any straight line regularities. The soil should never be cultivated, or even stirred around the trees.

The *Wild Goose Plum* may be relied on,

and is well adapted to the Southern climate.—*Rural Alabamian*.

New Fruits.

THE following list of new fruits was accepted and recommended by both the Committee on foreign fruits of the last session of American Pomological Society, and also Western N. Y., Horticultural Society, as being of more than ordinary merit. Wm. G. Ellwanger was the chairman.

Beurre Samoyeau.—Medium size; skin yellow, with a red cheek; flesh buttery and juicy; last of September and first of October.

Madame Desportes.—Medium size; skin yellow with reddish dots; flesh melting and juicy; September and October.

Abbe de Beaumont.—Medium size; skin greenish yellow, marbled with russet; flesh melting, juicy, and very good; August and September.

Eugene Appert.—Medium size; roundish; skin rough; brownish yellow; flesh melting; sweet; perfumed; delicious.

Rolmaston Duchess.—Medium size; pyriform; skin dull, yellowish green; flesh fine; very juicy; melting; vinous; very good; October.

APRICOTS.—*Early Moorpark*.—Medium size; very early and excellent; July.

Alberge de Montgamet.—Medium size; early; with handsome mottled red cheek; juicy and very good; tree very hardy; July.

RIVERS' PEACHES.—*Early Victoria*.—Size of Early York; fine flavor; first of September.

Princess of Wales.—Very large and beautiful; its color cream with rosy cheek; melting, rich, and excellent; first of September.

RIVERS' PEACHES.—*Early Silver*.—Large, melting, and rich; juicy and of first quality; early in August.

PLUMS.—*Reine Claude Rouge*.—Small, round purple; size of green gage; flesh green; juicy, with the rich green gage flavor; September.

Jodoigne Green Gage.—Size and form of good green gage, beautifully marked with purple; fine quality; September.

Columbia Pear.—This variety is considered, by the *Country Gentleman*, as worthy of more attention, not having received as much in the past few years as it deserves. The common objection that it blows off easily, may be partly obviated by gathering a little earlier than most winter pears, and partly by planting in more sheltered places, or away from the sweep of winds. We have found our supply to ripen finely during the present month (January) in a cool cellar, without any special attention, the specimens becoming juicy, melting and agreeable, and although not quite so rich, comparing well with the *Josephine de Malines* and *Winter Nelis*, ripe at the same time. The *Columbia* is fine grained, and free from the hard grains sometimes found in the *Lawrence*, and the unsoftened sides often occurring in the *Winter Nelis*. It is true that the *Columbia* is not always equal to those of the present season, showing the importance of understanding its management better. The smooth, fair surface which the fruit always possesses is a recommendation in its favor.

Hoosac Thornless Blackberry.—A new variety, discovered in Massachusetts in 1864, and carried to Ohio; said to be very hardy, and stood the winter of 1872-3 without injury; quality of fruit sweet and melting; flesh firm, productiveness remarkable, bearing canes are described as *absolutely thornless*. The new growth, however, has a very few small thorns on the under side of the leaf stalk, never to exceed one-eighth, and seldom more than one-sixth of an inch long; these shed off when the leaf falls, and the brush can be handled as readily as willow twigs.

Remedy for Slugs.—A correspondent of the *Gardener's Chronicle* says that he has found gas-tar water, diluted to the color of weak coffee, to be the best preventive to the ravages of slugs on all garden crops, and also an excellent manure, applying it by night from an ordinary watering pot, and half the slugs will be killed, and the rest much weakened. A second dose, after an interval of a week, is sufficient to banish them altogether.

The Pleasure Ground.

The Clematis.

EVERY homestead has some particular location where vines would form an added beauty to the surroundings, if such have not been already planted, and in this direction we desire to introduce to a more extended notice, the genus that heads this paper. It furnishes us with a great diversity of habit—from the delicate, slender-growing vine that is best suited to a fine wire trellis, or perhaps trained to a neat stake in our flower gardens—up to the rampant “Travelers’ Joy,” that in one or two seasons will completely cover a large arbor or porch with its wonderful wealth of foliage. And what a marvelous variety in the size and color of their flowers. Such species as our native *C. Virginiana*, with its large clusters of pure white bloom, or its near congener the *C. vitalba*, of Europe, and the well-known and deservedly popular *C. flammula*, fragrant as the Jessamine, have all small flowers. Then another class, of which we will cite as an example, the *C. viticella*, of Europe, has medium sized flowers, bell-shaped in appearance, borne on long, gracefully curved stems.

Still another, with small bell-shaped flowers, is represented by our own *C. viorna*. And then we arrive at the showy, although none the more valuable species and varieties to the florist.

Japan with her multitude of novelties has contributed her full quota of Clematis, along with her other rare floral gifts. *C. patens* which we believe was the first one introduced, was the forerunner of a long list whose name is now already legion, with a cry of “still they come.”

Lastly, the section having the largest sized flowers of all, is represented by its type and parent, *C. lanuginosa*, the woolly-leaved Clematis.

The prevailing colors in the family are white, blue, pink, and purple, with all their intermediate shades and tints, in some cases so

charmingly mingled as to make it almost impossible to describe them properly. Again, we notice in some varieties a series of veinings and stripes, which imparts a beautiful effect to the flower, and in a few rare instances as in “bicolor,” we have two entirely distinct colors.

The clematis is an illustration of a rather unusual character in botany, that is, a flower without some flower leaves or *petals*; and what the ordinary observer usually believes to be these organs, are in reality nothing more than the floral covering or *sepals*, and which in most other genera are usually of a green color. But the flowers are none the less lovely for this, as these sepals are capable of assuming the most gorgeous tints imaginable, and in the skillful hands of the gardener have assumed such wonderful improvements and transformations as to now rank among the finest and most costly of our modern plants.

A few hints in regard to their culture may not prove amiss. Their thick, fleshy roots, which form a distinguishing feature in the whole genus, are produced in abundance, and enable them to luxuriate in a soil filled with stimulating manures; indeed, it is useless to plant a Clematis where the soil is at all poor, as in such it will never give satisfaction. In addition to a liberal supply of rich compost previous to planting, we would recommend an annual surface dressing of short decayed manure in the autumn, which may remain to serve as a mulch during the succeeding summer.

We want plenty of bloom and as large and showy flowers as we can possibly induce, but to accomplish this, we must bear in mind, requires strong stimulating fertilizers, when the result will amply repay the cultivator. If each wash day the soap-suds should be poured around these specimens a marked change will soon become apparent.

During the growing season care must be taken to train and fasten every slender stem to its support, for if for a time this should be neglected, the habit of the leaf stems to cling pertinaciously to the nearest support, amounting almost to instinct, will soon create

a tangle, which, in the endeavor to separate, often becomes a serious matter to the vine itself.

The propagation of the Clematis is not attended with any great degree of mystery, although in the case of some varieties care is necessary to root them properly. Old plants may be divided, and every bud having a few fibers attached will grow and form a new vine; but in the newer kinds, where it seems necessary to raise a large number of plants from a few specimens, more skill is required. Cuttings of young wood grown under glass will strike root more readily than when taken from out-door vines. Those prepared with one or more buds at the top of the cutting (none below being needed), may be at once placed in a sand bed with a brisk bottom heat, where they will soon form roots and be ready for potting off. It is bad policy to plant these in the open ground the first year, or even in the soil of a frame, as vines so grown will prove inferior to those which are allowed to remain in pots the first season to become well established. The young plants may be grown in a cool greenhouse, or cold pit under glass, and frequently watered and syringed throughout the season. A little diluted manure water, say applied once a week whilst they are growing, will tend to make large plants.

Many varieties root easily from layers. This should be performed as soon as the young wood commences to ripen, a slit being made in the shoot close to a bud, and then curved downward into a small pot filled with loose, rich soil. To retain the moisture, which is indispensable with layers, the pots should be sunk in the ground and a slight covering of moss scattered over the surface. In the autumn all that have not rooted will quickly do so if treated as cuttings; that is, by carefully detaching them close to the scarified point, where may be generally noticed a calused swelling, and then subjecting them to a warm sand bed in the propagating house.

Growing Clematis from seeds is one of the most interesting methods of reproducing a large stock of plants, and whilst we are well aware that we cannot judge of their character

in advance, excepting with the true species, still there is a certainty of producing many beautiful flowers and useful vines. A large rockwork or heap of roots covered with these mixed seedlings is one of the most picturesque and attractive objects we have ever beheld; or for massing on a large trellis, or over coarse shrubs for screening unsightly places, they are equally valuable. The seeds must be collected immediately after they are thoroughly ripe, and sown in boxes of sandy soil, with a very thin covering of sand, and placed away in a moderately cool greenhouse, when the young plants will make their appearance during the following spring. Presuming these are allowed to grow the first year in the boxes (which is decidedly the best plan), the second year they may be planted out in nicely prepared beds, when the greater proportion will soon show bloom. Skillful hybridization with Clematis has produced the greater part of our choice varieties, but as this portion of the subject is not embraced within the practical part of cultivation, and at the same time is attended with so much trouble and care, we shall pass it by for the present.

As regards blooming, the Clematis may be classed into two sections; first, those which bloom upon the old wood, that of the previous season; and secondly, those which perfect their bloom upon the young wood of the same year. This feature must govern our trimming operations in a great measure, care being exercised not to curtail the shoots of the former too severely, else a diminution of flowers will be the result.

There is yet another class which belongs to the herbaceous plants whose roots are perennial and hardy, but whose tops die to the ground in the autumn. These are all handsome additions to the garden, and are delightfully fragrant in addition to their beauty. Of these the *C. erecta* with white, and *C. cærulea odorata* with blue flowers, are fine examples.

But many of our readers, we presume, would like to know just what to plant and what to leave alone. In answer to the former, we may reply, it is indeed a difficult task among so many beautiful forms and colors;

but difficult as it is, we could not answer the latter part of the inquiry at all, for we scarcely know of one that we feel like placing on the rejected list. In suggesting a list that we feel confident that will prove satisfactory to the majority, we will first call attention to the true species, and afterward name a selection of the finest hybrids and varieties.

Among the former as very valuable, are *C. cirrhosa*, greenish-white, blooming very early; *C. patens*, or, as it is better known, *azurea grandiflora*, with bluish-lilac flowers; *C. Standishii*, light mauve, and very beautiful; *C. florida*, creamy-white, in autumn; *C. Fortunii*, creamy-white; *C. Grahami*, pale green, very late; *C. riorna*, a native of this country, with curious little purplish bells; *C. Virginiana*, another native of great value, large clusters of small, white, fragrant flowers; *C. vitulba*, similar to the last, but a more rampant grower; *C. lanuginosa*, the cream of the species, a native of Japan, and the parent of many of our most famous hybrids, pale lavender; *C. viticella*, blue or pink bells, very abundant; *C. flammula*, the old fragrant, white flowering species; and *C. erecta*, a herbaceous plant bearing numerous large heads of snow white, sweet-scented flowers.

In our list of standard varieties, we have not included any of the very new kinds, many of which, however, will prove grand acquisitions. The following have all been thoroughly tested in this country, and are unexceptionable in every way: *Sophia*, an old variety with very large lilac flowers; *John Gould Veitch*, lavender-blue, double, a superb bloom; *Sieboldii*, creamy-white, with a mass of purple petals in the center; *Glorie de St. Julian*, pure white, of immense size; *Imperatrice Eugenie*, similar to the above, fine; *Jeanne d'Arc*, another of the very large flowers, grayish-white; *Hendersoni*, bluish-purple, bell-shaped; *Viticella venosa*, reddish-purple, elegantly veined; *Jackmanni*, the queen of the Clematis, deep violet-purple; *Renaultii cærulea grandiflora*, a French hybrid, violet-blue with rosy-violet stripes; *Rubro-violacea*, maroon-purple; *Cærulea odorata*, reddish-violet with pure white stamens, deliciously

fragrant; *Hybrida fulgens*, mulberry, very free bloomer; *Atropurpurea*, very abundant, deep blue.

We close our list with a brief enumeration of the choicest novelties: *Henryi*, *Lady Bovill*, *Lady Caroline Nevill*, *Lady Londesborough*, *Lawsoniana*, perhaps the largest sized flower of the Clematis family, measuring nine and a half inches in diameter, *Lord Londesborough*, *Lucie*, *Lucie Lemoine*, *Mag-nifica*, *Miss Bateman*, *Mrs. Moore*, *Mrs. Jas. Bateman*, *Otto Fræbel*, *Rubella*, *Symesiana*, *The Queen*, *Thos. Moore*, *Viticella rubra grandiflora*, and *Wm. Cripps*.

A Rapid Growing Tree.—At the Knap Hill Nursery, Surrey, England, is a specimen tree of the *Populus Canadensis, nova*, a variety of the Cottonwood, which in three years has made the extraordinary growth of twenty feet, forming well made trees. It is esteemed by Messrs. Waterer as a better grower than any other Poplar, and its habits free and healthy.

Arundo conspicua.—Thomas Moore, the celebrated English florist, expresses surprise that this is not more often met with in gardens, “for not even the far-famed Pampas Grass (*Gynerium argenteum*), grand and massive though it be, can at all compare with it for elegance of character. It is moreover quite as hardy as the Pampas, and flowers annually, in great perfection, toward the end of summer. It sends up its culms and feathery panicles by the end of July or the beginning of August, and its graceful beauty can be enjoyed for three successive months. It is the largest of the New Zealand grasses and grows in dense tussocks, formed of a profusion of long curving leaves, from amongst which rise the slender culms, six feet to eight feet high, terminating in large drooping panicles of silvery white flowers, the panicles themselves being from one to two feet long. A specimen shown to us, through a photograph, was ten feet high and measured eight feet across, having no less than forty-two of its slender graceful culms, each bearing a charming panicle of silvery spikelets.”

Deodar Cedar.—I remember some year or two since some inquiry was made through your journal in regard to the Deodar Cedar, which it was stated had been found too tender for a northern climate, and the question asked how they stand our winters.

I wish you could see a magnificent specimen in my garden, more than sixty feet high, the admiration of every beholder. They have never been injured here, even in our severest winters. Did you know that there are two distinct varieties of this cedar, one very dark green, which dips its branches down in true picturesque style, the other a pale blueish green in which the branches fall over exactly like a jet of water, so much so as to suggest the name of Fountain tree? They seem equally hardy.

The *Magnolia fuscata* (now in full bloom) and *Olea fragrans* would, I believe, grow to trees with us, if allowed. I have a *Magnolia fuscata* growing near my greenhouse, and in consequence of its shading the plants too much I cut from the top of it, four years ago, eight feet; an *Olea fragrans* which, for the same reason, I had as much cut from, and they are now both about twelve or fourteen feet high. Mrs. WM. T. BALFOUR.

Tenn.

Oaks as Lawn Trees.—*The Rural New Yorker* says that the White or Pin Oaks should not be used for lawn planting. The White Oak is a most conspicuous example of a tree belonging to the littering class, and the old leaves remain attached to the branches until forced off by the winds of winter or the new crop in spring. The greater portion of the old leaves remain upon the tree until the buds swell and new growth commences; and this occurring just at the time one usually desires to put garden and walks into their spring dress, they are at best a great nuisance. White Oaks are not, therefore, as desirable as lawn trees or for planting near flower gardens.

Transplanting Evergreens.—*Evergreen Hedges.*—A correspondent of the *Boston Cultivator* describes the hedges of J. W. Manning of Reading, Mass., consisting of Norway spruce, arbor vitae, white pine and

hemlock; but for beauty the hemlock stands unrivalled. This correspondent has found that a slight cutting in of the branches once a year keeps them in handsome shape. He removes the trees from the borders of pastures where they grow, when about a foot high, with a good ball of earth. Our own experience is, in transplanting young hemlocks from natural localities, that if a good ball of earth is taken with the roots they invariably live; if the roots are denuded they invariably die. We have found the same result with the white pine. The hemlock (as well as the Norway spruce) will grow better in shade than most trees, and hence the reason that the interior of the hedge is dense with foliage, giving the screens a fine, rich, compact appearance.—*Country Gentleman.*

Protecting the Timber Interest.—The growing interest in forest planting in the United States recalls to our mind the way the timber question was met once by the English government in China. The timber supplies began to grow short. A school of foresters was at once set on foot. Old officers were sent to France to learn the science, to Germany to study the practice of preserving their timber, and young men were engaged for a regular course of instruction, to be employed afterward in the service in India.

In some of the European States, the timber plant districts are guarded with the most zealous care. In Hanover, there are 900,000 acres of wood under State management.

In Prussia, nearly one-fourth of its whole area is in forest, although one-half of it is in the hands of private persons, who are just as jealous in taking care of it.

In Hanover, as an example, there is an organized corps appointed over its forests, consisting of one manager, with twenty division officers, 112 district foresters, 403 assistants, 303 under foresters, besides occasional laborers. There is a cash keeper in each district, and the net result is that, with an expenditure of \$650,000, there is an income of \$1,500,000, besides saving much that would be wasted.

New and Rare Plants.

Poinsettia Pulcherrima Rosco-Carminata.—This fine variety of one of the most useful of winter decorative plants resembles the type form of *P. pulcherrima*, so far as regards growth of foliage, the difference consisting in the color of the fine-spreading head of bracts which are larger, smooth, and of a brilliant rosy carmine hue. In the specimen from which these notes are drawn up, the crown of colored bracts measured fifteen inches across; the inflorescence first branched trichotomously, and then each of these branches were forked. The number of bracts displayed on these six ramifications was forty-five, all perfect in form, and pure in coloring, the larger ones measuring seven inches in length, and upwards of two inches in breadth. The bracts are much smoother and flatter than in the old form, and spread out so as to form a fuller and more regular crown.

Erythrina Parcellii.—A very handsomely variegated-leaved stove plant from the South Sea Isles. It has a stoutish woody stem, furnished with alternate leaves, the petioles of which are fully six inches long, and support three leaflets, the middle one of which has a footstalk of one to two inches in length, and the lateral ones a stalk of half an inch in length. The leaflets are upwards of five inches long, sub-rhomboidal, more or less acuminate, and narrowed in a somewhat angular manner towards the base. The variegation is yellow, sometimes forming a feather-like stripe along the costa and main veins, somewhat more suffused, and forming a band an inch wide, in which case the lateral veins take on more color, and the colored line becomes again branched; when at its fullest coloring, the center of the leaf is mottled with yellow. There is a peculiar thickening of the petiole with glands just below each of the leaflets. The leaves are strikingly ornamental in character. The flowers are very attractive, of a bright cinnamon red color.

Adiantum Henstorianum is considered a very beautiful addition to the list of Maiden

Hair Ferns, and has recently been introduced in England by Veitch & Sons. Fronds two to three feet in height, proportionately broader, with the lower pinnate slightly branched, thus becoming tripinnate. The stipe is of moderate length, erect, dark brown, glossy, while the rachis is, like the under-surface of the fronds, hairy. Texture of fronds rather thick and herbaceous, color a light green. Considered by florists and pomologists peculiarly distinct and possessing beauty. Is a native of Peru and Columbia and the Galapagos Islands.

Saxifraga Longifolia.—As a flowering species, this is the finest in this section, forming large and elegant depressed rosette-like leaf-crowns, 6 to 8 inches across, each formed of densely set circle-like rays of rigid silvery marginal linear leaves, producing a large and noble densely-flowered conical raceme, 18 to 24 inches high, of pure white salver-shaped blossoms.

As a decorative-leaf plant for summer gardens, it forms a fine companion plant to the *Echeveria* group in forming geometrical lines, belts, and double-edgings. It is also admirably adapted for ornamental panel work as link groups, and to show its effective character thus it requires to be grown in quantity.

Its beautiful leaf-crowns increase in size from year to year if not checked in growth nor permitted to bloom. If less glaucous in effect than the *Echeveria*, it is far less formal, more graceful in its outline, and far more elegant in the partial curvature of its leaves, whilst the silvery sheen of its leaf surface, seen under the brilliancy of a summer's sun, imparts to it an interest and beauty unequalled by any of its allied species, amongst which it has not been unfitly termed the Queen of Saxifragas.

Aubrietia Hendersoni.—Of this, William Bull says: "Whilst the predominating colors in the principal groups of early spring-flowering bedding plants are either white or yellow, the family of *Aubrietia* offers the most desirable and beautiful exception, in the varied shades of purple and violet-blue, merging into still higher tints, which its species now

offer to the cultivator, in forming the most chaste and elegant designs in spring flowers. The higher shades of rich blue and purple were realized in *A. græca*, and *A. Campbelli*, especially in the latter, but it has proved too delicate in its growth to produce certain bloom without artificial protection at the required season.

A. Hendersoni is offered as one of the most valuable of early spring-flowering plants, and a great improvement upon all the species in its group, being perfectly hardy, of vigorous growth and compact dwarf habit, 3 to 4 inches in height; its flowers are a deep violet-purple hue in their first stage, and maturing into a permanent rich plum color, presenting a sheet of bloom throughout the spring months. It forms a very chaste and beautiful front belt or edging in its own self color, and a charming effect as a broader verge where evergreens form a background screen. It is equally effective where a front line or foil of silvery-grey is added, formed of elegant miniature plants, as *Sedum acre* elegans, *S. glaucum*, or *Achillea umbellata*. The great display of the paler-flowered *Aubrietias*, which were so much admired during the spring of last year by thousands of visitors to the gardens of Mr. Quilter, near Birmingham, may be cited in proof of the still higher interest to be produced by the much finer forms of this valuable and effective plant.

Ipomœa leptophylla.—This species, a new introduction, is described from Dr. Torrey as a beautiful perennial tuberous-rooted climbing species, making very vigorous growth, and producing numerous racemes or trusses of large red *Convolvulus*-like flowers. The species of *Ipomœa* are generally well known as amongst the neatest and most effective of all climbing plants, and often sought for their easy culture and extensive growth. The scarcity of red flowered species in the tribe will render the present plant a desirable acquisition. The seed will be readily raised in a cucumber or melon frame, and after the plants are well established in the same position, they may be planted out for bloom into

the border of a warm conservatory or forcing-house, and trained along the rafters.

This is the plant that we saw on the plains of Colorado. It is very beautiful. Our own saving of seeds failed to grow.

Abies Douglasii Stairii.—Of this new variegated Spruce, introduced in England, and first sent out this spring, the English journals are printing very complimentary notices. The *Gardeners' Chronicle* says of it, in an article on "Variegated Plants": "The first case was that of an *Abies Douglasii*, which we saw at Castle Kennedy, one of the seats of the Earl of Stair. * * * It was almost white from head to foot. It is now a well-grown plant about eight feet high, and constantly exhibits the same phenomena, as do also a number of other plants raised from it by grafts or cuttings. When it first puts out its leaves they are perfectly white, and they continue so until the end of August, by which time a shade of green begins to spread over them. * * * It first appears at the base of the older leaves, gradually creeps up towards the tip, doing the same successively with all the leaves, until, by the end of September, the variegation is wholly, or almost wholly gone. * * * It is strong and healthy as any Douglas Fir around it, and so are the young plants raised from it. It is not the same as if the tree was originally weak, and, on acquiring strength, threw off the pallor of ill-health; the same thing is repeated year after year, with the unvarying regularity of a normal action inherent in the plant. * * *

The *Garden* says: "It is a strikingly beautiful tree, even in the autumn, but far more so in the spring, when it is a veritable silver, indeed, almost a pure white species. This, unlike some so-called variegations, is not the result of weakness or delicacy of constitution. I had the opportunity of examining some hundreds of these beautiful trees, which in hardness, rapidity of growth, and vigor of constitution, seemed to equal their green parent. There can be little doubt that a brilliant future is in store for this Silver Spruce in our woods and landscapes. It is

impossible to conceive anything more novel and charming than a free-growing Spruce, with young shoots almost as white as the *Acer Negundo* variegata. It seems to have no tendency to reversion. The whole stock of grafted plants is perfectly true to the original."

Again, in the *Gardeners' Chronicle*, Mr. Fish says: "At the head of them (the variegated or colored trees), in value as a pictorial tree, I would place the *Abies Douglasii* Stairii, a perfectly hardy, free-growing Spruce, as much so, I believe, as its green parent, and almost wholly silver throughout the spring and summer months. Fancy a white Spruce in landscape scenery. In this tree, contrasted with others, we virtually have it. It is the very tree that has long been wanted to lighten up the too sombre colors of Fir woods and even Pinetums."

Pritchardia Grandis.—A strikingly handsome Palm, with this name, has been introduced by Wm. Bull, into England, from the South Sea Islands. Its height is about three feet. The stock appears to be somewhat angular, and is surrounded with a fibrous net-work. The leaves are about two feet in length. The color is dark shining-green above, paler beneath, and the surface is quite destitute of pubescence. The leaves are originally flat, but become convex as they grow older. They remind one of a large palm-leaved fan, with ends drooping. Although its name has been given only temporarily by Mr. Bull, and it is not considered permanent, yet it is considered, by *The Gardener's Chronicle*, a plant so fine for ornamental purposes that few can surpass it. The sketch which we have seen of it is most graceful and attractive.

Flower Garlands.—Flowers are an essential part of a bridal array in all countries, and it would be difficult to name the nation where they are most lavishly used. All European nations are profuse in their use on every possible public occasion and family meeting.

The flowers selected for bridal purposes vary with the tastes of the different citizens.

In Normandy, roses are the bridal flower. When a man has little or no dowry to give his daughter, it is a saying there that he will give her a chaplet of roses. In Italy, the jasmine is the rose selected. In Germany, the myrtle wreath prevails, as in the classic days of Greece and Rome.

It is a frequent practice, says the *Argosy*, for a young girl to plant myrtle, and to watch and tend it till the time arrives when she requires the delicate blossoms for her bridal wreath. Should she die unmarried, the same myrtle furnishes her coffin. It is considered extremely unlucky to present another with myrtle from a plant dedicated to one alone, either for life or death.

The myrtle crown of the bride is frequently alluded to by German poets.

In the northern provinces of Germany, and in Scandinavia, the bridal crowns are composed of artificial myrtle, ornamented in a manner more showy than tasteful, with additional flowers in gold and silver.

These crowns are often a foot or more in height. In the evening the garlands are put up and danced off; a lively tune strikes up, and the bridesmaids and other girls dance round the bride, who is blindfolded. Suddenly the music stops, when the bride places the crown on the head of the girl who happens to stand before her at the moment. Of course the maiden thus crowned will be the next to be married.

A Splendid Sight.—Upon the grounds of John R. Boyd, Ballymacool, in North Ireland, there bloomed the past year a monster Rhododendron (*R. lancifolium*). It is about sixteen feet high, fifty feet in diameter of branches, and expanded upward of 400 splendid scarlet trusses of flowers. Mr. Boyd says the brilliancy of its color, the admirable shape of its blossoms, and the way in which the foliage falls down about the trusses, so as to set off to the best advantage, render this the most beautiful Rhododendron ever seen in the kingdom.

Mildew on Roses.—Carbolic soap and water is recommended to destroy mildew on roses, to be applied by sprinkling.

Editor's Florifolio.

Death of Mark Miller.

We regret to announce the death of Mark Miller, at his residence, in Des Moines, Iowa, on Thursday, April 16, 1874.

Mr. Miller had been suffering severely, the past few months, from fever, peculiar to Western sections, and for six months previous had been gradually declining in health, and withdrew from active business.

It was by a tremendous effort he made the journey to Boston, having set his heart upon the attendance of the greatest and most successful meeting of the American Pomological Society, but was seriously ill nearly the entire session; was hardly able to reach home, and then sank.

Mr. Miller has been identified, in many prominent ways, with the progress of Western Horticulture. In Wisconsin, whilst resident near Madison, he was an active supporter of the Wisconsin Horticultural Society, and started the *Wisconsin Farmer*. Removing to Iowa, he took more practical interest by projects for horticultural journals. *The Western Pomologist*, which afterwards absorbed the *Western Gardener*, enjoyed, in its way, wonderful support from the practical contributors of the West—more so than any Western horticultural journal that ever existed. He seemed to have the editorial faculty of drawing out free and spontaneous correspondence from all parts of the United States, and in a short time became known as one of the most reliable horticultural authorities.

As Western Editor of THE HORTICULTURIST, after it had consolidated the *Pomologist and Gardener* with it, Mr. Miller was always energetic in business or editorial capacity, and anxious to maintain a splendid department. Anxious to improve, he made efforts to secure superior contributions, and was well pleased, from first to last, with the evidence of popular appreciation bestowed upon his work. In a letter written to us about three months after the consolidation,

and his connection with THE HORTICULTURIST, he says: "That never, in his entire history, did he receive so many letters, as from the subscribers of THE HORTICULTURIST, and he was completely cleaned out of all back volumes or numbers of his own publications."

Those who knew him, will bear testimony to his simplicity, perfect honesty, and great anxiety to do right.

Death of Robert Morris Copeland.

We have also received reports of the death of Robert Morris Copeland, which took place at Cambridge, Mass., April 10.

Mr. Copeland has been familiarly known to the horticulturists of the United States as author of "*Country Life*;" also as contributor to the horticultural press; and, as landscape gardener, has laid out many elegant estates, and acquired considerable celebrity. His latest sphere of operations was in the management of Ridley Park, near Philadelphia.

Removal.

The offices of THE HORTICULTURIST, LADIES' FLORAL CABINET, and other publications of Henry T. Williams, were removed, May 1, to No. 46 Beekman street, where correspondents will hereafter please address their favors. The new offices are very convenient, and handsomely fitted up, some of the most tasteful, in this respect, of any in the city.

The Centennial.

Since writing our editorial, in April number, the Philadelphians have rallied in force, held an overwhelming meeting; the city has voted \$2,000,000 more to the aid of the work, and the prospects now are, beyond a doubt, that the full plans will be consummated. We do not believe any other city in the Union could raise \$4,000,000, in so short a time, from local sources only.

Russian Horticultural Journal.

There is but one journal published in the Russian language devoted to horticulture, The Westnich, organ of the Imperial Horticultural Society at Petersburg. It is edited by M. Wolkenstein, and publishes freely wood-cut engravings and colored illustrations.

Hydrangea Panicalata Grandiflora.

Without exception, this seems to us the most gorgeous of the flowering shrubs. We are surprised that it does not become more quickly and favorably known. It is now about six years since its first introduction into this country, and yet only within two years has it been brought forward with much notice, nor do we remember ever seeing it illustrated in the "*high art*" pictorial agricultural journals.

It is a shrub of remarkable merits. It is *perfectly hardy*. This is of immense value to garden plants. Then it is a fast grower. This will please amateurs. Plants have reached four feet high during three years' growth. It is, again, a very profuse bloomer, and flowers are of the most monstrous size, fully six to eight inches in diameter and nearly a foot long. Each branch will bear one of these long panicles of bloom, while an entire shrub will give twenty to forty immense bouquets of this size.

The shrub is very compact in growth, and easy to manage. One beauty of the flowers is the *durability of their bloom*. We have, by dipping the stems in water, kept the bouquets for an entire week, and they make most excellent parlor, table or mantel decoration. A pitcher full of a group of these panicles, placed before a large pier glass, is more than ordinarily showy.

Astonishing Yield of Potatoes.

We had supposed the potato fever was over, but find it revived again by the report of the judges, Dr. Hexamer and P. T. Quinn, who have made public some interesting items respecting the competition for the prizes offered by B. K. Bliss & Sons. Compton Surprise ranks 100, and Early Vermont 78, while Peerless ranks 72, and Early Rose 62. Poor King of the Earlies is 40, and Early Goodrich 35. The highest yield was 607 pounds of potatoes from one pound of seed of Extra Early Vermont, and 511 pounds of Compton Surprise from one pound of seed.

The verdict of the committee puts Compton Surprise as the most prolific potato cultivated at present. Yields of twelve to twenty pounds

to the hill are quite common, while in one instance 28½ pounds to one hill were reported.

The flavor, grain and flesh of the Compton Surprise is very generally commended, although, in varieties of such prodigious yield, there is a tendency to weakness which develops after a time.

One tuber of the *Vermont* was raised which weighed three pounds and twelve ounces, while many averaged one to two pounds each. It seems to be quite a healthy sort, and free from disease.

Mr. Satterthwaite's Pear Orchard.

Mr. Satterthwaite's orchard, near Philadelphia, is quite as celebrated among horticulturists as are those of Mr. Quinn, near New York, or Messrs. Wilder & Hovey, near Boston.

But the peculiarity of Mr. S.'s management is, that *every inch* of his ground is occupied with other growing crops, and apparently not to the detriment of the trees. One of the theories now firmly fastened in the minds of fruit growers is, "*that if fruit trees occupy the ground, nothing else should.*" But Mr. Satterthwaite goes on regardless of this idea, and his trees seem to help him out in his practice.

One of Mr. S.'s fields, of about four acres, is devoted to asparagus, which is planted about five feet apart, six of the rows filling each space between the trees, planted thirty feet apart, and ten feet in the rows. Intervening spaces are economized by gooseberries, raspberries, rhubarb, etc. From this orchard nearly \$400 worth of asparagus is taken to the acre, and from half the plat he sold this year more than fifty bushels of gooseberries, at about two dollars per bushel. But the pears are the main dependence, although season and crops are very irregular. The ground is very heavily manured, very carefully cultivated, and there seems a plenty for both vegetables and trees.

In another part of his grounds, Mr. Satterthwaite grows raspberries among his trees. These yield nearly \$400 to \$500 per acre, and then other parts are filled with strawberries. Every foot of ground is economized, and every tree seems exceedingly healthy.

The Rutter Pear for Canning.

Specimens of this pear have been canned the past fall by Richardson & Robbins, of Dover, Del., which were obtained from the trees of Mr. Satterthwaite. We judge, from the tests and specimens placed at our disposal, that the pear is a success for this purpose. It cooks all through firmly, does not soften, is white, sweet flavor and large size. It is not as handsome in appearance as the Bartlett when canned, but is more sweet. Neither of them, however, can compare with a canned Lawrence. The test we consider a satisfactory one, and fruit growers may plant the Rutter freely, knowing that it is desirable both for market and canning. The more we can have of such sorts, the greater the value of each variety.

Varieties of Pears Not Good for Canning.

Richardson & Robbins, who have experimented considerably in canning, say that the Belle Lucrative, Howell, Beurre Clairgeau, Onondaga, are entirely unsuitable. Thus far only the Bartlett, Lawrence, Duchess, Vicar, Beurre D'Anjou and Rutter are esteemed best. The test for pear for canning is, that it shall not be too soft, either on surface or at core, but must be firm enough to cook all through. Pears with good flavor are of no value if their flesh is too soft, yet pears of good, firm grain, *without any flavor*, are also equally undesirable.

A Good Protection Against Mice.

Take common horse shoe tile, set two of them around the tree, so that the edges will meet, wrap them with twine to keep them in place; let them set close around the body of the tree, sinking the ends slightly into the earth, and the mice are nonplused completely. They can be applied any time, even after snow has fallen.

Forty-Eight Pears to the Bushel.

J. C. Parsons, of Vineland, N. J., raised, in 1873, from dwarf pear trees, but three years planted, some Duchess pears, forty-eight of which filled a bushel measure, and the average was nineteen ounces each.

A Prosperous Fruit Section.

Niagara county, in Western New York, is probably the best apple growing section of the

United States. Its crops are uniformly reliable, and its fruit is of superior quality. During the past fall season of 1873, the apples shipped to market amounted to nearly 500,000 barrels, for which the farmers received an average of \$2.50 to \$3 each.

Flavor of California Pears.

Some Easter Beurre pears, shipped from California to London, arrived in good condition and were put on exhibition in the shop windows of Covent Garden. They were pronounced by connoisseurs, in regard to quality, as decidedly superior to that of either English or French fruit of the same variety, "Easter Beurre." The flavor was considered as very fine, and the flesh of a more even and tender texture than that of European grown fruit.

This opinion is very singular, as the fruit growers of the Atlantic coast States will not admit that the flavor of California or Pacific coast fruits is as fine, sprightly or consistency as juicy as their own.

As we have tasted fruits on both sides of the Continent, it is fair and honest for us to express the candid judgment that the California pears or peaches cannot rival in flavor or color those of Delaware or Central New York. But we make one exception, viz., the *Easter Beurre*, which, shipped to New York and eaten in its prime, is far more delicious than the same sort raised on the Atlantic coast. The long season in California develops it finely, but our season is not long enough.

Akebia Quinata.

In England, this is classed as a curious greenhouse climber, and practically it is unknown here to lovers of popular flower gardening.

Recently, a correspondent of *The London Garden* wrote an enthusiastic description of its great beauty and easy culture in the United States, and it called to mind the propriety of once more directing public attention to it as a desirable favorite for every garden. The plant is as vigorous as an ordinary honeysuckle, starts early and lasts down to the latest frost. "The leaves appear in sets of five, like the horse chestnut, but the leaflets are only about an inch in length. The flowers

appear soon after the leaves, and are delicately fragrant, not quite so strong as the honeysuckle. The flowers are very striking, from there being two sets in each bunch. The females are the showiest, sweetest and most beautiful. The flowers are about one-half of an inch wide, and of rich plum color. Does well anywhere."

We have wondered considerably where Johnson Cottage Gardener's Dictionary obtained the information to class it as a "green-house climber," when, from experience in American gardening, it is as hardy as any native vine.

It originated in Japan, and was introduced into America twenty years ago by John Feast, of Baltimore.

Effects of Gas on Plants.

At a meeting of the Imperial Academy of Sciences at Vienna, Professor Bohm described experiments proving the injurious action of gas on plants. The plants of fuchsias and salvias, as examples, were put in pots, gas was constantly conducted to the roots, and seven died in four months. It was shown that the gas does not, in the first instance, kill the plants, but that it poisons the ground.

A Profitable Market Garden.

As a rule, governmental agriculture is proverbially unprofitable, but it is a pleasure to record any instance of remarkably good management.

The finest kitchen garden in Europe is that at Versailles, France. It belongs to the State, and brings in a yearly revenue of about 20,000 francs from the produce of the sale of fruits and vegetables. It was originally laid out by La Quintinge, gardener to Louis XIV.

The Legislative Assembly have now determined to make it a model market garden and school of horticulture and general garden instruction.

Louis Van Houtte's Nursery.

To our importing nursery men and florists the name of Van Houtte, the great Belgian horticulturist, is as well known as a standard book. Everything done by him is on the highest possible scale. For instance, reading lately in the *Journal of Horticulture*, respecting his

operations, we are quite surprised to hear of the magnitude of his Camellia trade.

In one house there was on one side a batch of 150,000 cuttings, striking, apparently, with the greatest freedom; on the other, recently worked, were 100,000 more. In another part were 80,000 in bud, for sending off in the autumn, and in the summer time the entire collection of Camellias was transported out of doors and the pots plunged in the earth. They were placed between tall upright poplars, which were planted in line from the east to west, and at distances so that the shadow of one row reached the other. Here were 500,000 Camellias, a perfect forest.

Ants.

Best remedy for ants among pots, green-houses or vicinity, is very hot boiling water.

The National Horticultural Society.

IN THE HORTICULTURIST for February, and in other late horticultural journals, have been calls for the formation of a national horticultural society. I beg leave to differ with Mr. Taplin, and say the time *has* come to form it, or at least to take some definite steps in that direction. It is true that money is scarce, but we have waited long enough for the "convenient season," and now is as good a time as ever, so let us get at work as soon as possible. The increasing need of such a society is felt by every one in the profession, and a national organization would be of untold benefit in bringing together the thoughts and experience of different parts of the country. To make the society beneficial, it must be truly national in character, and must gather its material from both the east and the west. With such men as Sargent, Ellwanger, Hoopes, and Parsons from the East, Douglass, Bryant, Miller and Elliott from the prairie States, and others who may come from the Pacific coast, a society might be organized which would be of incalculable benefit to all. Why not hold the first meeting as early as August? Nurserymen are less pushed with work then than at almost any other time, and we shall all be glad of a few days' visit during the dog days. I would suggest St. Louis as a central point

which can be conveniently reached from all directions, and am most earnestly in favor of organizing at once. S. M. TRACY.

It is said to be the practice in Italy, when planting grape vines to scatter a few handfuls of gypsum about the plant.

Errata.

In April HORTICULTURIST, several errors occurred, which are corrected as follows:

Page 116, fine rose should be *fine nosed sprinkler*.

Page 127, *Pinelum* should be *Pinetum*.

New Publications.

Hussey's National Cottage Architecture.

This large quarto volume, issued in same style as *Woodward's National Architect*, contains twenty-seven designs for buildings and sixty-two plates of details. The mechanical execution of the volume is without fault, and a large proportion of the designs are quite acceptable, and almost all uniformly of moderate prices, from \$1,900 to \$6,000. Several designs were exceedingly pleasing to us, because of their interior arrangement, which was admirably contrived. The artist's fancy for the Mansard roof, and windows let in midway, or rather the eaves coming down half the length of the window, does not seem to us very tasteful, and is not destined to be very popular. Published by O. Judd Co. Price \$8.

Suburban and Rural Architecture. By Isaac H. Hobbs & Son.

This volume contains eighty-four designs of cottages and villas, with about 200 pages of descriptions. It is printed in admirable taste by Lippincott & Co., of Philadelphia, and is very attractive in exterior appearance. Most of the designs were originally engraved for *Godey's Magazine*, and seem to have been very poorly executed. A few designs are excellent in idea, but a large proportion of them are very plain in appearance, and designs decidedly mediocre. It is better to have a fine volume of a few very tasteful designs than an *omnium gatherum* of old and new engravings, some of which are sure not to please. Price \$3. New York: O. Judd & Co., agents.

The Ivy—Its History and Characteristics—Illustrated by Shirley Hibbard.

The author, well known to the horticultural public as editor of the *Gardener's Magazine*, London, has contributed this beautiful brochure to the list of really useful rural publications of the day.

The mechanical execution of the volume, binding, paper and illustrations, are really tasteful and a pleasure to look upon.

Two chromo lithographs of the ivy in various colors, yellow and white variegated on green background, with borders of the ivy in its autumn crimson colors, are the frontispieces. Both together represent nine different varieties.

Opposite page 62 is another colored plate, representing seven other varieties, and most beautiful to look upon, with its tasteful print, the best in the volume. Opposite page 78 is still another.

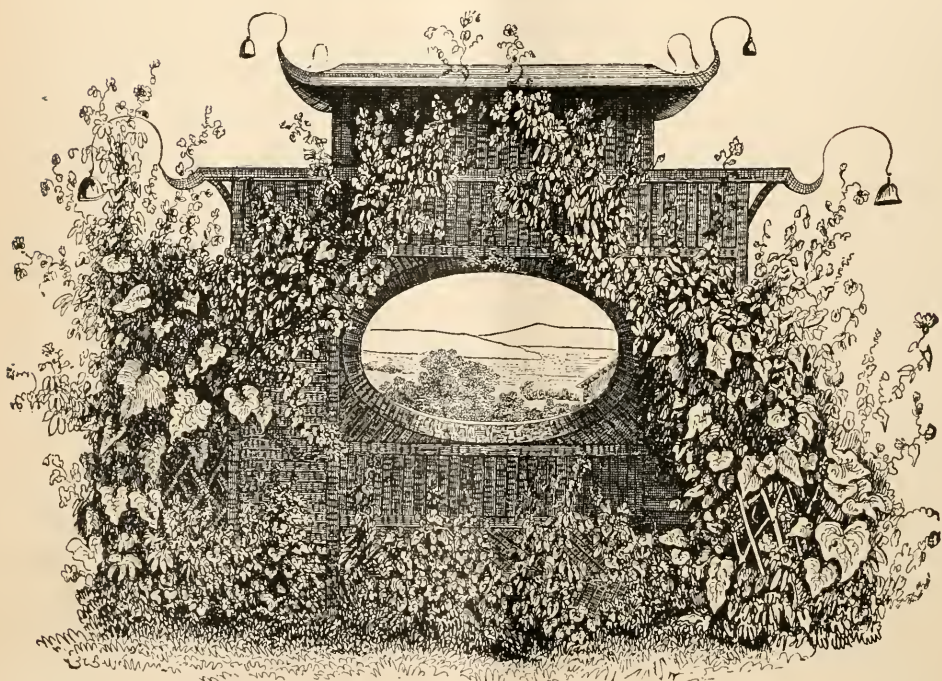
The author, in summing up the contents of the book, discusses the history and literary curiosities of the ivy; then its characteristics, uses, cultivation, species and varieties. Two chapters are devoted to a descriptive list of Garden ivies, green leaved or variegated, and the selections of ivies, comprising the most distinct and beautiful in the several sections.

The volume is still further embellished with about sixty wood engravings, and there seems nothing lacking to make the book a success in every particular, and the most complete one ever issued on the subject. Its only fault is too much matter, rendering it difficult for the reader to obtain a correct idea of the differences which distinguish the varieties.

The editor of THE HORTICULTURIST, in thus writing a candid review of a very worthy book, desires to have the horticultural public contrast "American liberality of sentiment" with a recent specimen of English cynicism, as recently appeared in the columns of the *Gardener's Magazine*, wherein the editor, without a particle of liberality, condemns an American volume, which is declared by the *Gardener's Chronicle*, the leading English horticultural journal, to be the best, without exception, on that subject, ever published in England or America, viz: *Window Gardening*.



GARDEN SUMMER-HOUSE.



A LAWN ORNAMENT. SUPPORT FOR VINES.



CORRESPONDING EDITORS:

JOSIAH HOOPES,

JAMES TAPLIN.

VOL. 29.

JUNE, 1874.

NO. 336.

The Greenhouse.

Greenhouse for June.

Hints.—The most hardy plants should be at once removed to summer quarters, out of doors, if not already done; if these plants remain inside too late in the season, it induces a weak growth, which is sure to suffer when removed outside, and the room is also required at this season for those plants intended to occupy the house for the summer months. Exceptions should be made for a time for Camellias which have not yet completed their growth, and any other delicate plants which have been cut in and repotted to insure a better and more vigorous growth.

Camellias.—If any late-blooming Camellias or Azaleas have been allowed to assume a loose, straggling growth, these plants should be cut into shape at once, and remain inside until later in the season. Allow the young shoots to start before shaking out and repotting. In some cases such plants are better potted into smaller sized pots, after reducing

the ball of soil carefully, without destroying the roots; and Azaleas in very large pots may have the ball reduced by cutting the sides away until it can be potted in the same size again, with sufficient fresh soil between the roots and pot to give it a fresh start. Such plants require keeping at the close end of the house, be frequently syringed and carefully watered, for if it gets too wet or very dry, the plants will be sure to die. In potting all large plants, but especially such fine-rooted things as Azaleas, be careful to make the soil very firm from the bottom to the top, and leave the soil a trifle higher round the sides of the pot than in the middle. The fresh soil will sink a little, and also be washed away to some extent in the most careful watering; it also turns the water to the old ball full of roots, which is sure to get dry first. Never fill large-sized pots within one or two inches of the surface; this is required to hold water.

Glorinias will be now growing fast, the early plants commencing to flower. Give them occasionally weak manure water, and shade from bright sun. Later plants will require larger pots. These plants flower finely in a

warm greenhouse, if not exposed to drying draughts of air; the flowers also last longer when cut than when grown in a hot, close house. Achimenes, in pots and baskets, will be in full flower. Give abundance of water, and slight shade from full sun. Any late plants which have not been already divided, should be done at once; these will flower much later than the early started ones, often lasting until October.

Coleus.—Pot a few plants of the bright-colored varieties into six-inch pots, to have another shift into about ten-inch pots if large plants are required. These plants are very useful to fill up any gap in the greenhouse during the summer, and if well grown, are not to be despised as an exhibition plant at the autumn state fairs. Good, heavy loam and rotten manure will grow these plants to any reasonable size, if they receive abundance of water. The full sun suits these plants best.

Calceolarias.—A few of the most distinct kinds should be treated the same way for the same purpose. The variety called Tricolor is one of the best for that purpose, it being a dwarf grower, and the foliage beautifully variegated.

Oleanders should be planted out for the summer. The true double white and Madoni grandiflora are fine additions to this old-fashioned plant. Never cut the flower stems from these plants; they often flower several times from same stem. Cuttings of these, rooted after the flower stem is formed, make desirable plants to flower a few inches high; we have flowered them in two-inch pots. In this state they are more interesting than the tall, lanky plants usually seen.

Double Chinese Primroses should be removed from the greenhouse to a cold frame behind a north wall, after trimming away all old flower stems and dead leaves. If convenient, these plants give least trouble if planted out in such a frame in the same kind of soil used for growing them in pots. If the plants are at all lanky, which some will probably be at this season, sink them deep in the soil, quite up to the leaves; they will then form fresh roots on the surface, and when taken up, the old stumps may be cut away. These plants

are considered rather difficult to keep through the summer. This is partially caused by either pushing the plants into some out-of-the-way corner after flowering, and they are neglected and forgotten, or leaving them standing about on the greenhouse stage until all the life is dried out of them.

Cyclamens should be treated the same as recommended for Primulas, excepting that being bulbs, and at rest during summer, they require but little water.

Tropaeolum tricolorum should be placed away under the stage or in some other convenient place, and kept quite dry until the autumn. This is one of the best winter flowering creepers for pot culture we have; but, although an old-fashioned plant, it is not so often seen in this country as it should be. In England it is cultivated by nearly every one having a greenhouse.

Orchids.—These plants are classed among the plant aristocracy, but in this free and enlightened country there is no reason why the owner of a small, warm greenhouse should not share the enjoyment of growing a few of these grand plants with the owners of large conservatories, employing educated gardeners to look after them. Many of the species are as easy to grow as a rose, and the flowers frequently last for several weeks, and in some instances for months. Another recommendation: many species flower naturally in winter, at which season choice flowers are most valuable. To those readers who have not grown these plants, we would advise to try a few. Get a few established plants; these should not require repotting for a year or more, by which time an observant cultivator will know something of the habits and requirements of the plants. Many species, after once rooted on blocks of wood, or, what is better, blocks of burnt clay, require no further attention except keeping moist and free from insects. Many varieties are scarce and dear, but others are to be obtained at moderate prices; but we would advise growers to avoid very low-priced Orchids, for they may depend there is a screw loose if these plants are offered at very low figures; and above all, avoid unnamed varieties. Most

of the best kinds are well enough known to dealers, and if there is any doubt, the low-priced purchaser will not receive the benefit of it. We have frequently known Schomburgkias sold for Laelias, and the very weedy Epidendrums, which never had a name out of a botanical library, sold for fine varieties, in some cases named by the seller, and in others left to the discretion of the buyer. As such plants are generally the smallest bits, the new owner will probably never see it flower, and live in the expectation of some day astonishing his neighbors by flowering a grand novelty.

This is a good season to commence growing a few Marantas. These are capital plants for mixing with ferns in glass cases; in fact it is useless to attempt to grow these plants in a dry, light house, for all the varieties require shade from bright sun; and Veitchii, the best of all the species, must never have a gleam of sunshine. We noticed some years ago Veitch, of London, the introducer of this and many other fine new plants, had his plants in a hot north house, a fact which should be remembered by attempted growers in this country, for we do not recollect seeing a respectable plant of this species at any other place but our own. The old zebrina is very good in its way, and will stand more rough usage than any of the other varieties, and is very handsome when well grown; and regalis is also good, especially for a glass case.

Poinsetta pulcherrima and *Euphorbia jacquinciflora* should be shaken out of the old soil, and potted into smaller pots, to be kept close for a short time, until the young shoots begin to grow, after which give abundance of air and full sun. These plants are usually grown out of doors during the summer months, but here we are so exposed to rough winds that we have grown them the last year or two in a light house, open day and night. It makes the shoots longer than they would be outside, but for cut flowers that is no special disadvantage. These plants dislike being either waterlogged or very dry; either will make the leaves turn yellow and fall prematurely. Some plant these things out, but with every care they receive a great check in taking up in the au-

tumn, and the floral bracts are not so large on the one or the spikes of bloom on the other.

Fuchsias should now be in perfection, and must be well watered, using occasionally manure water. Keep them cool and shaded from bright sun.

Pelargoniums should also be in full flower. These require same treatment as Fuchsias, and unless cooler than usual, will not last long in flower. It will be difficult to get as good mass of bloom at one time as on those plants in flower last month. The house should never be closed during the flowering of Pelargoniums, particularly if the weather is very hot; the flowers drop much quicker. Any early flowering plants should be removed out of doors to a partially shaded place, and not overwatered, as soon as the flowers are past.

Roses will be soon past for inside decoration and cut flowers. Any buds remaining on the plants will open better outside than in the house after this time. Any young plants requiring larger pots should be potted at once, and all the plants plunged in a light place in open ground, to be watered as required. The general stock of plants is best reotted in August, to prepare for winter work.

Begonias, both fine foliage and flowering varieties, should be potted into larger pots, as required, giving slight shade to the foliage varieties, and full sun to the flowering sorts. Parnelli is a capital addition to the small foliage varieties. If large pot specimens of Caladiums are required, give the plants a good shift into large pots or pans, using soil light and coarse, with good drainage, these plants requiring abundance of water.

Permanent climbers on the roof may be allowed to grow rather wild and natural at this season, the partial shade being no disadvantage.

Myosotis Imperatrice Elizabeth.—This exquisite Forget-me-not is recommended by the *Florist* as a charming plant, and one of the very best for pot culture. It is also one of the best for cutting from for bouquets. It is readily increased by dividing the young shoots that the plants throw out after they have done flowering.

The Pleasure Ground.

Weeping Trees.

BY JOSIAH HOOPES.

THERE is no other class of arborescent vegetation that is so well marked in character, and consequently so well calculated to produce beautiful effects in the landscape art, than that which embraces the trees with drooping branches. The greater portion of them must be grouped under the general title of the *beautiful* rather than the *picturesque*, and yet, strange to say, horticulturists, in the majority of instances, have to be educated up to a certain point before they can fully appreciate the real value of these graceful specimens. Nurserymen more than any others are aware of this fact, on account of the frequent inquiry, "For what use are those curious trees intended; and why do they grow upside down?" But although odd, and to a certain extent uncouth in appearance in their younger years, weeping trees are the very opposite at maturity, and especially when their graceful drooping branches are in contrast with the round-headed or spiral-pointed classes. On the outer edge of a group composed of the above, the former shows to great advantage, and at once relieves all idea of stiffness that might otherwise appear. If we were asked the question, what one species or variety is the best, taking everything into consideration, we should unhesitatingly answer, the Weeping Beech among deciduous trees, and the Hemlock Spruce among evergreens. This will doubtless run counter to the preferences of many of our readers, but the two above named are at least unexceptionable, and what more can we ask?

Commencing with the deciduous weepers, and with our favorite, the Weeping Beech, an extended eulogy seems unnecessary, as it is well-known to be hardy, of free growth, healthy, beautiful, and adapts itself to most situations. The plan adopted of latter years for propagating this tree, is to graft in the collar close to the surface of the ground; this

of course makes a finer specimen than when worked several feet high on a naked stem. In the former the drooping twigs and branches commence low down, and produce an effect at once, whilst in the case of the latter, one has frequently to wait several years before the tree becomes attractive. Divested of foliage, the Weeping Beech presents a twisted, unnatural appearance, but when clothed with its large deep green, glossy foliage, the reverse is the case—the whole head as it were droops, and the outline is full of diversified undulations, so suggestive of natural effects in planting.

Among drooping trees the common White Birch holds no mean position—we allude to the European species, *Betula alba*. We admire it not alone for its slender, graceful branches, nor yet for its neat foliage, but for its pleasing white bark that pervades every portion of the tree as well. It is so entirely hardy, and shows so conspicuously among the darker verdure of other species, that it is a subject of wonder why it is not more frequently employed. A well marked form of this, now becoming quite popular, is the cut-leaved Weeping Birch, a tree that is unexceptionable where the soil and climate are adapted to its growth.

In some portions of the Middle and possibly the Southern States, this usually handsome tree does not prove satisfactory, as the lower limbs have an unfortunate habit of dying out and leaving a long naked stem; indeed the head is never so dense, nor the growth so vigorous, as when growing in Western New York, where it forms a thick mass of verdure from the ground to the summit. We presume it to be a Northern tree in its preferences. A new candidate for arboricultural honors has of late been inviting our attention under the name of Young's Weeping Birch. It is described as being very desirable, with remarkably long, slender shoots, and decidedly pendulous in character. It is about being tested with us, and promises to be an acquisition.

Among the Ashes (*Fraxinus*), we find several curious sports, but owing to the

depredations of a persevering species of "borer" (here our entomological knowledge is at fault), the various varieties do not give satisfaction excepting in certain localities.

We have the ordinary common Weeping Ash, as well as a form with yellow bark, both varieties of the *F. excelsa*: then there is a variety of the *F. lentiscifolia* with slender branches and smaller leaves, which to our taste is the finest of all. Other kinds are in cultivation, but they are of less importance.

Among Willows, the old Babylonian species must be considered the type of this class; and for certain situations, and for producing marked effects in landscape art, it has probably no superior. On the margin of a body of water it seems peculiarly appropriate, and succeeds admirably as well, being a location too wet for many genera of trees. A new form has been introduced into our collections from France, called Solamon's Willow, which is not so drooping in character. The Kilmarnock Willow is now so well-known, that a description is unnecessary in this place, but it still increases in popularity as its merits become better known. Upon a nicely shaven lawn, a specimen of this tree standing alone, produces a fine effect.

We wish we could see as much beauty in the so-called American or Fountain Willow, but the truth is, we do not admire it, and we never did. With all our care in training, in a few years it becomes unsightly, and is at best a poor "Weeper."

The Poplars are receiving attention of latter years, and already our list of weeping varieties number four or five distinct kinds. According to our idea of beauty, however, there is but one really first class tree, and that one is among the finest of all the drooping plants; we allude to the *P. grandidentata pendula*. For a small sized specimen, it forms a strong rival to the Kilmarnock Willow, and will, we believe, in time supersede it. There is an objection, however, to its culture, which we must mention: all the Poplar family will sucker more or less, consequently this trouble will stand in the way of its advancement. Budded upon the Lombardy

Poplar, a species that is not very objectionable, the long, slender branches, reminding one of whip-cords, are full of grace and beauty; and even when worked seven or eight feet high, the branches will extend frequently to the ground in a single season. The other "sports" are inferior to the above, and in fact we do not believe they will ever become popular: among them we might enumerate the *Parasol de St. Julian*, *Tremula pendula*, *Græca pendula*, etc., etc.

The Weeping Mountain Ash is indeed an ornamental tree of the highest merit, but unfortunately another species of the dreaded "borer" soon eats it off close to the ground, and so voracious is this insect, that all our watchfulness is not sufficient to prevent the mischief.

In some districts, however, it succeeds satisfactorily, and there it deserves universal notice. When loaded with its crop of mature fruit, it is difficult to conceive of anything more charming.

The Weeping Deciduous Cypress is not strictly a member of this class of trees, as the branches proper are not pendant, but merely the small branchlets. It is, however, one of the finest ornamental trees with which we are acquainted. The foliage is small and very handsome, the tree is hardy and grows rapidly, and we know of no disease or injurious insects that trouble it in any way. It forms a superb avenue, and appears to great advantage in a group of Conifers, to which natural order it belongs.

The Weeping Larch is not beautiful, and yet it is decidedly picturesque, but almost any of the Larches may be changed into drooping trees with rounded heads by simply cutting off the leading shoot. On the outer edge of a group this tree certainly adds to the interest of the mass of verdure.

Reid's Weeping Peach is decidedly pretty and attractive, for in addition to its graceful drooping branches, the bloom adds another interesting feature to the tree. It was a chance seedling that originated in the grounds of the late William Reid, of Elizabethtown, N. J., and in its natural state was a sprawling shrub. Worked standard high, however,

it becomes very graceful without artificial training.

The Dwarf Weeping Cherry is also exceedingly pretty, but difficult to graft or bud, hence it will never be very plenty. The branches are very slender, and the foliage quite small, which adds an additional charm to its pendulous character. For a center piece in a bed of shrubs, or even when standing singly on the lawn, it must invariably attract attention.

We doubt whether there are any fine specimens of the Weeping Oaks in America, although abroad there are a large number, and not confined to one species either, as the books enumerate several distinct kinds. The difficulty attending the importation of these specimens has been certainly a great drawback to their dissemination with us, but we suppose their propagation will be taken in hand on this side of the water at an early day.

The Weeping Sophora will succeed as far north as New York and Philadelphia, but as it does not appear ornamental for some years after removal, and never, in fact, unless trained and properly pruned, we doubt whether it will prove very popular. Still we know of several very fine specimens.

Among the finest of all large sized weeping trees, commend us to the Weeping Silver-leaved Linden. When young, it does not show to advantage, but as the tree increases with age, the limbs assume more of the drooping tendency, and the numerous small twigs, all pendant, impart a rare beauty to the symmetrical head. The foliage is likewise exceedingly attractive, and is never injured, so far as we are able to ascertain, by either insects or disease. It may be going a little too far to state, that it is unexceptionable, but if it has a fault, we are not aware of it.

The Elms furnish quite a list of drooping trees to select from, but perhaps our own native American Elm cannot be excelled. It is grace and utility combined, and if the insects would only oblige us by not molesting the leaves, we could recommend it without reserve: unfortunately, however, the whole family are troubled in this way. Our Slippery Elm (*Ulmus fulva*) is likewise a graceful

little tree, and the various European varieties, among which we might mention the Camperdown Weeping, Rough-leaved Weeping, English Weeping, etc., are all beautiful specimens when they succeed in retaining their foliage.

There are a number of so-called drooping trees which are merely the result of some straggling sport worked on a straight body, but which have little claim for beauty—but are merely curious at best. Such for instance as the Weeping Horse Chestnut, Weeping Almond, Weeping Thorn (pretty, but only succeeds in a few favored locations), Weeping Laburnum, Weeping Honey Locust, Weeping Walnut, Weeping Heart, and Morello Cherries.

Our space is filled, and we have no room for a discussion of the merits of Weeping Evergreens. This we shall have to refer to another time.

Lawn Grasses.

A. VEITCH, NEW HAVEN, CONN.

AS a lawn in good condition is an object of great attraction about any place, large or small, too much care cannot be bestowed upon selecting the most suitable varieties of seeds with which to sow it down. This may be the more needful, as those who have written upon the subject, do not seem agreed as to which are the best for the purpose. Some tell us a mixture of Timothy, Red Top, and June Grass is the best, while others would add to this, just so much of Orchard Grass, a pinch or two of sweet Vernal, with a sprinkling of Crested Dog's Tail, and a Fescue or two.

Now, we believe very satisfactory results can be obtained by sowing several of the species just named, either singly or together; but how Timothy has come to be ranked with these, does not appear so plain, lacking as it does, the most essential properties of a lawn grass. This will be the more evident when it is borne in mind, that those grasses which grow close to the ground, and spread by running root-stocks, are better adapted to endure frequent mowings without becoming thin on the ground or running out, than those which are

strict in their habit of growth, or which grow in tufts. Timothy grows somewhat in this way, and, consequently, lasts but a short time under the scythe, and even while it does last, contrasts unfavorably with some of the finer-leaved varieties.

Looking impartially at the subject, it seems that no species do better in this climate of ours, than *Poa pratensis* and *Agrostis vulgaris*, or form such a close-matted carpet of green from early spring until late in the fall. They will grow together for years in the most of situations without the one gaining much advantage over the other. But should they be sown on land of unequal depth and fertility, or where a gravelly or sandy subsoil in some places mars the surface, the *Agrostis* would be likely to predominate on the poorest places before many years, whilst on the better portions the other would take its place.

Striking examples of this are sometimes to be met with on pasture lands, and may be accounted for on the supposition, that as the *Poa* is the most luxuriant grower, is also first in motion in the spring, and comes into flower several weeks before the other, it thus gains an advantage which tells upon its more tardy neighbor. But although this difference of character is quite apparent, no harm results therefrom, as either the one or the other is all, or nearly all, that can be desired to make a lawn as attractive as it possibly can be.

As the *Agrostis* has the finest foliage of the two, and is adapted to as great a diversity of soil and climate as any other, I have in years past used nothing else in lawn-making, with the exception, of course, of White Clover, and am persuaded that with these alone, as fine a sward can be obtained as with any mixture whatever, either on land that is dry, or where it is as wet as ever a lawn should be.

The proportions generally sown have been two and a half bushels, or thirty pounds to the acre, and three pounds of White Clover per bushel. This looks like an excessive quantity, and so it is, when it is remembered that at this rate, the Red Top alone gives no less than 33 seeds to the square inch. But as there are numerous chances against its equal

distribution, it is better to sow a little too thick than too thin; as overcrowding amongst the plants will speedily be corrected by the strongest bearing down those that are weak and unable to hold their own in the struggle of life.

Seeds for the Lawns.—Some of the fittest seeds for a lawn are *Poa pratensis* and *trivialis*, *Festuca ovina*, *Cynosurus cristatus*, *Avena flavescens*, *Trifolium minus*, and *White Dutch clover*. Some nurserymen have mixtures of their own adapted to particular soils. But the smaller the proportion of the stronger growing kinds that is admitted, the finer, and smoother, and softer will be the grass, and the less mowing will be required. —*Journal of Horticulture*.

Clematis Jackmanni.—The hardiness of this variety near New York is well tested, as appears from a letter written recently to the *London Florist*, in which the writer says he had a plant of *Clematis Jackmanni*, on a pillar, which withstood entirely unprotected, a temperature of 14 degrees below zero during the winter, and 110 degrees above during the summer, subject to wind and storm.

Rolling the Ground.—A correspondent of the *Germantown Telegraph* writes: "On dry or wet ground the effect of the roller is found to be salutary. Plowed and prepared for sowing, dry land is much helped by the roller. The blades of grass spring up sooner and retain a firmer hold in the earth. In wet and heavy ground it is believed the roller, smoothing and hardening the surface, will leave the soil immediately beneath the surface in a better condition to generate the seed. On grass ground that has been heaved by the frost, the roller has an excellent effect in fixing the roots. Rolling the ground is also good when the land has been laid down unevenly the previous year. If the land is too dry, wait till just after a soaking rain, and it will work capitably. It is a good idea to roll plowed sowed ground before harrowing, as it presses down the furrows that would be turned back, and makes the surface less uneven, and the harrow pulverizes it much. We find that on an average not one farmer in four has a roller."

The Flower Garden.

Bedding Plants.

AND by this title we do not mean the flowering plants alone, but those with richly tinted foliage should be included. Much as we love beautiful flowers in all their variety of color, form and fragrance, still there is an indescribable charm in a happy combination of colors, when the gay tints of the *Coleus*, *Alternanthera*, *Iresine*, etc., are associated in close proximity, and arranged in neat designs.

Let us first review these brilliant-leaved plants, and see what they are capable of producing when artistically disposed. Suppose, for example, we select the most simple, and, to our eye, the most beautiful form for a flower bed—the circle.

We may either adopt the massing system or the ribbon arrangement, for they are alike susceptible of splendid effects. Now, for our suggestions in regard to planting. For massing, three circles of about six feet in diameter, arranged in an equidistant group, can be made to form a charming feature on the lawn by planting one of the beds solid with *Iresine Lindenii*, edged with *Artemisia stellarina*; the second filled with the rather new white-leaved *Glaucium corniculatum*, edged with *Alternanthera versicolor*; and the third of *Golden Gem Coleus*, edged with *Alternanthera amœna*.*

A single circle of large size, say twelve feet in diameter, may be planted in the ribbon style as follows: First an edging of *Artemisia stellarina*, next a ring of *Alternanthera versicolor*, then one of *Coleus Golden Gem* or *Princess Royal*, then of *Coleus Verschaffeltii*, then of *Centaurea gymnocarpa*, and lastly a center plant of *Iresine Lindenii*. One of the most gorgeous beds we ever beheld was an immense parallelogram set with the above named plants, in precisely the order suggested, and rarely could a person pass by without

stopping to admire the same. The laborer, with his kettle on his arm, hurrying to his daily work, turned his head and gave an approving smile; the nurse would forget her charge the moment that she came within the circle of its magic influence; the florist would sit down to study out the great attractive feature in this apparently simple arrangement; and even the man who universally *pooh-poohs* flowers would involuntarily exclaim, "Well, that is rather pretty, anyhow."

There are very many pretty designs whereby this class of plants may be used for adorning our grounds, but to explain them properly would require illustrations. There is a class called succulents which are capable of producing remarkably pretty effects when arranged according to a suitable design. The best of these are the various species of *Echeveria*, *Sempervivum*, *Sedum* and *Agave*. We have seen in Europe beds of these plants arranged in the most complicated manner, yet each curve and angle was so well marked, that the whole could not but leave a pleasant impression upon the visitor. These are almost unknown in this country, and yet for bedding purposes they are well adapted to our climate.

When we speak of flowering plants for bedding out, we scarcely know where to commence, nor where to stop, so great is the number of really valuable varieties, any of which will prove acceptable. Suppose, for instance, we adopt the group of three circles mentioned in connection with bright-foliaged plants. A greatly admired design might be produced by using solely *Geraniums*. In one we should plant the *Gen. Grant*; the second should be composed of *Master Christine*, and the third *Mrs. Pollock* or *Pride of Mount Hope*, where the tricolors stand. If an edging is desired, there is nothing better than *Artemisia stellarina*.

A large circle or ellipse forms a dazzling show when planted solid with *Scarlet Geranium*, and for this purpose we know of nothing superior to the old *Gen. Grant*. Those who prefer a little contrast may use an edging of the *Golden Feather*, *Pyrethrum*, and a fine specimen of the *Abutilon Thompsonii* in the

* We have seen this trio of beds planted with *Alternanthera*, a distinct variety in each, and all edged with *Artemisia*. In the latter part of summer, when the beds presented a compact mass of highly tinted foliage, the effect was really gorgeous.

center. Beds massed with the Tree Periwinkle (*Vinca*), both red and white, are quite showy, but to look well they should be used freely, as small groups do not show to advantage. A pretty border for the White *Vinca* may be composed of the little *Cuphea platycentra*, which produces myriads of small scarlet tubular flowers all summer long.

Dahlias, when scattered over the lawn singly, look meagre and out of place, but when massed together in a large bed, with the taller-growing kinds on the back, and the little "bouquet" varieties in front, they make a grand show. But Dahlias should never occupy a prominent position on the front lawn; rather place them on the side or back, where visitors may catch a glimpse as they enter. They are entirely too conspicuous and large for the finer portion of our grounds.

The Double White *Feverfew* (*Pyrethrum*) looks well in a mass, and will bloom throughout the season by clipping off the old decayed flowers; and even *Heliotrope*, when used in the same bed with the above, shows to great advantage, its fragrance lending an additional charm, which the most indifferent admirer of flowers cannot resist.

Those who have only seen a single plant of the *Lantana* in a mixed flower bed, have no idea of their beauty when a large number of colors are grouped together. The brilliancy of color, the multitude of bloom, and their free growth are all unsurpassed. As an edging we would suggest the little *Lobelias*; and whilst we can never hope to compete with the English gardens in cultivating this plant, still it succeeds satisfactorily in most places with us. To have it in perfection, cut off all the flower stems the moment their beauty is over, and a new set will at once take their places.

Every year we have a bed of *Scarlet Sage* (*Salvia splendens*), and during the summer we almost conclude we will never plant it again, as green foliage alone is not very attractive on a lawn; but as autumn approaches, and the bed becomes a mass of dazzling scarlet, we wonder why we ever allowed a disparaging thought to creep in.

Verbenas and *Petunias* are lovely all

through the season, especially when planted in large masses. They are very appropriate to cover the surface of shrubbery beds, when the latter plants are small; and the contrast afforded by the evergreen foliage of a *Rhododendron* clump in close proximity to these flowers is exceedingly pleasing.

Fancy beds cut in the turf and filled with summer-flowering bulbs look well; for instance, a bed of each of the following: *Tuberose*, *Lily*, *Gladiolus*, *Tiger Flower* and *Tritoma*.

But we must not forget the annuals, as very many of these furnish the landscape gardener with valuable material for producing particular effects in his art. Space will not allow us even to enumerate all the fine plants in this department; so we shall content ourselves with calling attention to a few of the most useful.

Asters and *Balsams* produce the best show when set in lines of different colors, and now that we have so many forms of each, they may be arranged very tastefully; and in this connection allow us to suggest as a handsome border for the same, mixed colors of *Phlox Drummondii*. *Portulacca* should have a bed to themselves, and on a clear day nothing can well exceed their brilliancy. The double form is greatly superior to the single.

A bed of *Nasturtiums* (*Tropaeolum*) is a beautiful sight, provided we have poor soil, and a good selection of colors. If the soil should be rich, the plants run to vines, and flower indifferently. *Marygolds*, either in masses or ribbons, always look well if they are old-fashioned. *Mignonette* and *Sweet Alyssum* form very neat and fragrant edgings for walks, although neither are very attractive. The *Perilla Nankinensis* is a capital annual "foliage plant," as the leaves are of a rich dark purplish hue. It looks well when assorted with other species, or in a solid mass, with a light-colored border. *Ten Weeks' Stocks*—or, as our grandmothers called them, *Stock Gillies*—are especially showy when in bloom, but, unfortunately, that is not all summer.* We might name many more, but the

* We very nearly forgot to mention the *Double Zinnia*, one of the very showiest of all. These are best suited for large beds on the side rather than at the front of the dwelling.

foregoing will make sufficient variety for the majority of our gardens.

Among hardy perennials there are very few that will answer for ornamental gardening on highly cultivated lawns; but we must have beds of *Perennial Phlox*, *Chrysanthemums*, *Iris*, *Paeonies*, etc., in a somewhat retired spot, where they will not offend the eye when out of bloom. In perfection, it is no trouble whatever to walk some distance for the purpose of enjoying their lovely flowers.

Our paper must close with a few remarks upon plants suitable for the sub-tropical garden, an invention of latter years, and one that has made an entire revolution in gardening affairs. The bed may be of any desired shape, although a circle or ellipse is capable of being arranged more readily than most other forms. We would recommend for the center a fine plant of *Ricinus*; then, grouped around this, a choice collection of *Cannas*, with an occasional plant of *Arundo donax variegata*; then a mixture of *Pampas Grass*, *Erianthus Ravenna* (a beautiful grass), *Colocasia*, *Dwarf Cannas*, *Solanums* and *Wigandias*; whilst on the outer edge should be a confused mass of bright-colored foliage, such as *Abutilon Thompsonii*, *Iresine Lindenii*, *Euphorbia marginata*, etc., with a few plants of *Yucca* to destroy the uniformity of outline. In these beds, regularity of arrangement is not admissible, however much we may admire it in other classes. The list of plants for this style of gardening is increasing every year, and the few kinds above named are but a small portion of what may be used for the purpose. *Palms*, *Dracenas*, *Agaves*, *Bambusas*, *Azaleas*, *Ficus elastica*, etc., etc., are equally appropriate, although more expensive.

Seasonable Hints.

If any planting out is yet unfinished, complete it at once, for after such a wet spring it will probably be a dry, hot summer, so that late planted things will have a poor chance of getting a good start.

Tuberoses, for flowering in the open ground, are best not planted until the last week in May, even in this location; and fur-

ther north, June is quite early enough for the purpose. We have no doubt the frequent complaints of not being able to flower these bulbs is caused by planting too early. We never plant our small bulbs for the next season's flowering until the end of May, and usually have quite a number flower among those we considered too small for flowering.

Gladiolus.—Plant a few bulbs to flower in succession to those planted early in the season. We often get inquiries if these bulbs will live in the ground during winter. In dry soil, if planted deeper than the frost penetrates, they will live, and so will potatoes; but either will be killed if much frozen.

Bougardias for winter blooming should be planted out at once. These plants should not be allowed to flower much during summer, but the flowers be cut off to induce free growth. *Jasminoides* make a nice bed for cutting during the summer, for this variety will flower all the year round; and although it does not last after cutting so well as some of the other varieties, the flowers are sweeter.

Foliage Plants.—Any odds and ends of these which are not handsome specimens, on turning out the plants from greenhouses, such as large begonias, dracenas, etc., may be grouped in some corner of the flower garden, if not desired to save these plants for another season. They will make a fine show during the present summer, and can be left to their fate at the end of the season; but these plants often grow so fine that they are considered worth saving at the end of the season, if room can be found to stow them away.

Caladiums.—It is seldom desirable to plant these out before the commencement of June, and there is seldom anything gained by doing so earlier than about the middle of the month. In this latitude the soil is seldom very warm before that time, so that the plants do not commence to root or grow. We have put these plants out in shady places, and also in full sun; and although those in the shade commenced to grow freer at first, we considered those in full sun the best at the end of the season. Even the white-leaved varieties, such as *Meyerbeer*, did not suffer in the least.

Window Gardening.

Ferneries:

How to make them and what to put in them.

AN ADDRESS BY JOHN ROBINSON, BEFORE ESSEX INSTITUTE. SALEM, MASS.

FERN cases, or ferneries, as most of us call them, were originally called Wardian cases, in honor of their inventor, Dr. B. N. Ward, of London, who published a book upon the subject in 1842. These cases are only a modification of the hand-glass always used to force or protect plants in the greenhouse or open air; yet the placing of this in a practical way renders it easy to import the plants of foreign tropical countries, which otherwise could never be seen here in a living state, besides enabling us to grow at home as beautiful ferns and other delicate, moisture-loving plants as are seen in the hot-house or conservatory.

The fern case, as it comes from the cabinet-maker's, is a handsome piece of furniture, but an expensive one—so expensive, perhaps, as to deter many from possessing a fernery. This need not be, for at home a case can be made just as serviceable, and having some advantages even over the expensive ones.

Procure from your carpenter a good pine board of the dimensions you may wish, for the base of your structure, which by the way should be about one-third longer than wide. Next obtain a suitable molding (black walnut is the best), and fit it around the base-board, as if it was a picture-frame on end. Next have a zinc pan made to fit closely inside of this, coming up to the top of the molding. Do not have any turned-over edge or ring to the pan, as they are of no use; neither should the pan be made first, as it is difficult to make a neat box to fit outside it. Have the pan painted on the inside with a good coat of tar, as the delicate roots of the plants dislike to come in contact with a metal surface. Next comes the glass; and here is where most persons fail. Be sure the glass is inside the the pan, and never have the pan inside the glass, for the moisture collecting on the glass

runs down outside the pan to the woodwork, rotting it, and very likely between the moulding and base-board, on to the table or what else the case rests on, causing much trouble. Also in watering, the glass directs the water in like manner, with the same if not worse results.

A good proportion for the glass is to have it as high above the base as the case is wide, and it should go to the bottom of the pan. Have the corners true and the top level, that the plate of glass which covers the top, and which should be one-fourth of an inch larger all around, shall be even. With common flour-paste attach narrow strips of cloth up over the corner angles on the outside, but only an inch or so down the inside from the top. When dry, paste some dark paper over it, so as to cover the cloth, also around the top plate of glass, to prevent the edge from cutting your hands. No cloth is necessary for this. Fill and oil the black walnut moulding, and the case is complete.

A still more simple one is to tar the inside and paint the outside of a shallow pine box, and place the glass directly inside it. If you intend purchasing a handsome case, it will be better to have one made to order, as all the ready-made ones usually offered for sale have the case poorly and incorrectly constructed, in more ways than one. Nearly all have flat tops, to be avoided where there is woodwork (the home-made case having no woodwork at the top, it is not a disadvantage). One advantage possessed by the expensive case, is that the whole top takes off, enabling you to work all around, and not entirely from overhead. Here you may construct ruins, grottos, arches, etc., with pumice and cement. Pumice is so light that it adds but little weight to the case, and the cement will bind the whole together as firmly as one rock, all at a very slight expense, at the same time adding much to the beauty of the interior. Very neat circular cases are for sale at the stores, and can be filled so as to be very attractive. They can also be used as fern nurseries. To do this, make the earth damp and firm on top, having first placed a few small pieces of

broken flower-pots in the upper soil. Take a leaf of some fern, or several different species of ferns, if you desire, that have the fruit quite ripe. This can be discovered by shaking over white paper, when, if ripe, a brown powder will come off. These are the spores or seeds. Dust these over the prepared earth, replace the glass, and leave the case in a warm, shady corner. In a few weeks, if not permitted to become dry, a green scum will appear, which in time will transform itself into the most beautiful little ferns, that may be separated, potted, or transferred to other cases.

Now, to fill the case. First make, if the pan be three inches deep, about one inch in depth of drainage—pebbles, charcoal, broken bricks, or, better still, broken flower-pots; over this a thin layer of moss or coarse, fibrous stuff of some sort, to prevent the earth washing into the drainage and choking it. Some cases have holes in the bottom, and glass receptacles for superfluous water; but, if care be used in watering, this will be entirely unnecessary. For soil suitable to grow most plants likely to be in the fernery, a mixture of one part sand, one part peat, two parts light pasture loam (leaf-mould may be used for peat), will do well. The earth should be heaped up a little in the center, or, if the case is large, two or three little elevations may be made. Upon these place the larger ferns or plants, with the others distributed around them. A log of wood covered with moss and small ferns is a very pretty center piece; and to cover the ground the little running *Selaginella*, common in all greenhouses, answers better than almost anything else, except our own native mosses, which must be treated with care, or else they mold or dry up.

Ferneries may be divided, if you like, into two classes—dormant and active. By dormant I mean such as contain plants which lie at rest during the winter months—chiefly our natives and others like them in habit that have been introduced. These it is well to arrange separately, as they require less heat than the species growing all the year round, chiefly from the tropics, which form the active fernery.

The dormant fernery can be made very interesting, the plants in it keeping about the same all the winter, but growing toward spring; and, as many like the pleasure of filling their case every fall, this is as good a way as any to do, as it is a pretty ornament for winter, and in summer need not be cared for. Of the two thousand exotic species known to exist, but three hundred probably can be purchased in this country, and of these comparatively few are suitable to grow in the case. Most of the smaller-growing species for sale hereabouts will do—particularly those of *Pteris*, *Doodia*, and *Adiantum* (maiden-hair ferns). Gold and silver ferns require care, as the yellow and white farina washes off in watering. Besides ferns, *Begonias*, *Dracenas*, and *Marantas* do well for the center of a case, and many others can be tried. Even if they do not succeed, there is a pleasure in experimenting.

In New England there are about the same number of ferns as in Old England—forty-five or six. About Salem, say within ten miles' radius, there are sixteen genera, twenty-nine species. Of these, few are suited to the fernery. The larger ones grow well in the garden, on the northerly side of a fence or building. Of the smaller ones, the ebony spleenwort, two or three of the *Aspidiums* or shield ferns, the *Asplenium Trichomanes* do well. The climbing fern will look pretty for a while, and some of the ferns which lose their foliage at the frost will, if their roots be planted just under the moss, grow toward spring—such as the beech ferns, hay-scented ferns, New York ferns, and others. The moonwort and common polypody, which grows everywhere, should never be left out; and the hart's tongue and walking ferns are valuable accessions, if they can be had. This comprises about all the native ferns of use that can be collected here; but there are many little plants to associate with them, which add much to the beauty of the case. The partridge berry (*Mitchella repens*) can be gathered in bunches, regardless of roots, tucked in the moss and earth, where it will grow, bloom, and often fruit.

The rattlesnake plantain (incorrectly called adder's tongue), the Hepatica, gold thread, Limnea, all do well; and club mosses, winter-green, checkerberry all add to the effect. The larger foreign and native ferns may be grown in an open fernery, which should be in a room with as moist air as possible.

Do not drown your plants. Persons frequently ask: "How often shall I water my plants?" It is impossible to answer, except to say: "Whenever they are dry." With the same amount of water per day in a cold room, the earth in the flower-pot would be mud, while in a hot room it would be powder in a few hours. To avoid pests, mould, etc., sprinkle the ferns occasionally and give air an hour or more every day. Wiping off the moisture from the glass will take away many impurities. Cases sprinkled often seldom require watering, and it is surprising how long life will last on a small supply of water. I once planted in the bottom of an olive bottle a fern and some moss, corked it and sealed the top over with sealing wax, placed it upon a light shelf, and left it. The fern flourished about a year, and weeds which sprung up lived six months longer. Life lasted eighteen months in all, without the addition of a single drop of water.

Do not place the fernery at the southern window, in the full glare of the sun; an eastern or western one is better. Turn it around every week, that the plants may grow evenly. The case may be filled in August, to be established by winter. Some fill them as early as June, others not till October; but August is the best for tropical fernery. The natives need not be attended to till September, if you like. Not only may ferns be grown in cases, but some species are very beautiful as basket or pot plants.

A cocoonut may be formed into a very neat basket by sawing off the top and burning holes half an inch across all over the shell, with two small ones at the top, opposite each other, for the wire to suspend it by. If in this a fern is planted which has running roots with leaf-buds, the effect is in time to cover the whole shell with the beautiful foliage, as these

little roots find their way to every hole before long. For this *Adiantum setulosum* and *A. Ethiopium* are the best. Baskets to hang in the top of a fern-case may be made of thin, pliable bark, wired together. Wire baskets, lined with moss and filled with earth, are fine for ferns with stems, which run on top of the soil, such as most of the Davallias, *Polypodium aureum*, a native of Florida, and others. The hare's-foot fern is one such, throwing out woolly feet in advance of the leaves. A log hollowed out on one end is most suitable to grow the stag-horn ferns upon. They will in time form huge crowns on the top of the log, while little creeping species may be grown successfully on the side at the same time, if wired on with a little moss and earth. Hollow stoneware pillars are made with pockets in the sides, the center filled with earth, ferns planted in the pockets, and the whole covered with a bell-glass. Wire netting can be formed into a tube, filled with coarse earth, and ferns inclined to climb by rooting stems, as the ivy does, can be made to cover it with foliage. In fact, there is no end to the variety of designs that can be introduced into the fernery, whether it be a simple bell-glass or a structure one hundred feet long by forty wide and high. Of this latter class of ferneries most beautiful ones are described in foreign books, where sometimes the side walls are of turf, covered with creeping Lycopods and ferns, while little brooks, mimic waterfalls, and ponds add both to the beauty of the place and to the air the moisture necessary for the health of the plants. This is called the natural cultivation of ferns and approaches as near as possible to their natural habitat. It is to be hoped that such will soon be established by our wealthy amateurs on this side of the water, as it is much more instructive than the ordinary way of growing these plants, and that there will be a steady increase in the already growing interest in ferns and ferneries.

The evening was made more enjoyable and the remarks much more interesting and clear by the exhibition of ferneries and plants upon the platform, illustrating the subject. They were chiefly as follows: A large black walnut

fern-case (cabinet maker's pattern), containing stone grotto and choice tropical ferns, Selaginellas, *Begonia rex*, etc., a square home-made case (large), containing native plants entirely; circular fernery (large), containing tropical plants; log with a fine specimen of *Platycerium alcicorne* (stag-horn fern) growing upon the top, other ferns and mosses on the sides; wire baskets, with Davallia; cocoanut shells, with maiden-hairs; bell-glass, with *Adiantum capillus-Veneris*, or English maiden-hair; also other ferns in pots, cut fronds, etc.

Ferns suitable for ferneries, which can be purchased at the greenhouses at fifty cents or less:

<i>Pteris serrulata</i> ,	<i>Adiantum capillus-Veneris</i> ,
“ <i>argyrea</i> ,	“ <i>adn</i> ce,
“ <i>longifolia</i> ,	“ <i>Ethiopicum</i> ,
“ <i>tremula</i> ,	“ <i>cuneatum</i> ,
“ <i>Cretica</i> , var. <i>albo-lin-</i>	“ <i>folium</i> ,
<i>cata</i> ,	“ <i>hispidulum</i> ,
<i>Pellaea rotundifolia</i> ,	<i>Aspidium molle</i> ,
“ <i>hastata</i> ,	<i>Selaginella Martensii</i> ,
<i>Gymnogramma sulphurea</i> ,	“ <i>densa</i> ,
“ <i>calomelanos</i> ,	“ <i>Braunii</i> ,
<i>Doodia caudata</i> ,	“ <i>Kraussiana</i> ,
<i>Asplenium Mexicanum</i> ,	“ <i>uncinata</i> .
<i>Onychium Japonicum</i> ,	

Begonias.—This class of plants is well suited for house culture. The bloom of the *Begonia Magnifica*, is most beautiful and constant. The petals resemble frosted glass. It has a very delicate, spring perfume. I have had a specimen in bloom since the first of October. Requires plenty of water while blooming.—*Ex.*

Daphnes for Winter Flowering.—

For the past two months I have had some plants of *Daphne odora*, flowering and effusing their fragrance in my little drawing room. Receiving almost no care at all, they flourish in spite of neglect; sometimes without water for more than a week, and the thermometer ranging from 60 down to the freezing point, still they maintain their equanimity and bloom on. Slight frost does not materially injure them, neither is sunshine indispensable.

My plants, about 3 feet high, have been without a glance of sun during the blooming season. In fact, the common mistake is too

much care in their management, especially in regard to heat. The air of a sitting room is too warm for the health of the plant, if long confined to it. A low temperature is requisite, while at the same time it prolongs the blooming season several weeks. M. M.

A Floral Decoration.—A writer in *Les Mondes* suggests a new idea for floral decoration, which it seems may readily be put in practice. An ordinary earthenware flower-pot is filled with water, the hole in the bottom of course being closed, and allowed to stand until its porous sides are completely soaked. The water is then thrown out, and the pot is repeatedly dipped until it will absorb no more, and its outside becomes thoroughly wet. On the outer surface fine seed is thickly sprinkled and allowed to remain sticking thereto. The pot is then refilled with water and set in the shade under a bell-glass. In a short time the seeds will germinate and throw out shoots, so that to prevent their falling from the sides of the pot, some thread or wire must be repeatedly wound around the exterior of the latter. Eventually the entire vessel will become a mass of living vegetation, which is nourished by the percolation of the water contained within through the porous sides.

Artistic Nosegays.—The ball bouquet of the period is of long-stemmed flowers, loosely yet most artistically put together, and is made up of but two or three kinds of flowers that must not only match the floral garniture of the dress with which they are worn, but must also be of odors that do not conflict. For instance, with a dress of white gauze, fringed with lilies of the valley, the hand bouquet is of real lilies of the valley; pink rosebuds, and glossy green smilax, with a pinkish-yellow salmon silk dress. The round bouquet is half of tea-roses and the other half of pink buds. Sometimes the entire bouquet is of double violets with a smilax wreath; deep red Agrippina roses are alternated with pale yellow ones, and so on. Violets and geraniums neutralize their odors. Heliotropes and pink rosebuds blend well both in color and perfume.

Gardening.

Market Gardening.

BY J. M. SMITH, GREEN BAY, WIS.
No. 2.

AMID the hurry and bustle of planting, you must not forget or neglect to care for your strawberries. If you have not a bed of them, put in a piece of ground at once with the Wilson. If you wish to experiment, do so, but make these your standard, until you are sure of something better. If you have a piece already in, the winter covering must be taken off, and the beds thoroughly cleaned out. Don't leave a thing except the plants. After this is done, put on a coat of well rotted manure, or what is still better, if you can get it, ashes. If they are unleached, at the rate of about 150 bushels per acre. If leached, twice the amount.

Your tomatoes for late crop, peppers and melons, will be about the last things put in for the first crop; for you must remember that you are not a successful gardener until you can double crop nearly your whole ground every season. And you must be bearing this in mind, and be preparing for it all the spring. But by the time, and probably before your first crops are all in the ground, the seeds first put in will require your care and cultivation. In the meantime, if you have a good asparagus bed, your market wagon has had to be put upon its daily trips. And now comes a season of unceasing care and labor. Not a day, nor an hour, should be lost. In the highly manured condition of your soil, the weeds come up literally by the million. They must not only be destroyed, but the young plants must be cultivated, to improve and hurry them on for the early market. If it rains, there are sure to be plants to transplant. If it pours down, you will still find it necessary to be on hand, and watch your beds and see that the surplus waters of the falling flood are immediately carried off, and that your beds are made ready for work again at the earliest moment. To be sparing of care or labor now is ruinous, even if your work up to

this time has been ever so well done. And many times after a long day of twelve or thirteen hours' labor, your market man comes home with an order, or a letter comes with an order for so much of this, or that, to go upon the first train or the first boat in the morning. Tired and weary as you are, you must go back to the garden, and fill the orders, or soon find your business sadly injured. Do not think me drawing a fancy sketch, for I remember well, one week, two years since, when from four o'clock in the morning till eleven at night, some if not all of my sons were in motion. This was of course only for a few days. But from the first of May to the middle of August, you will find long days the rule, not the exception.

From the middle of June to the 10th or 15th of August, comes the additional work of getting in the second crops. The varieties of the second are not so great as those of the first one. The last of June or first of July, the Early Horn carrots should be sown between the rows of your black seed onions. If your ground is in the right condition, and the weather favorable, they will come on, and by the time they need the ground, the onions will be ripe and they may be gathered, and the whole ground given to the carrots. But sometimes at this season of the year, the dry weather and a burning sun together will kill the young plants after they are up. Such was my case last season, but after I found that the carrots would be nearly or quite a failure, I sowed the beds with turnip seed, and the result was, a fair crop of as pretty turnips for table use as I ever saw. In June, the radishes, lettuce, etc., are getting out of the way and making room for celery and late beets, as well as rutabagas, though I think a better way to raise these two last named crops, is to sow the seeds in a bed and then transplant them. Let me illustrate this. Last season, I intended to raise cabbage after my early potatoes, but before I had the ground all set out, my cabbage plants gave out, and I concluded to fill up the ground with rutabagas and beets. It was nearly or quite the first of August, and the weather was very dry, as well

as very hot. But there was no time to spare, and the plants were set out. They were set twelve inches apart each way, and although they were well watered, for a time they looked like almost anything, more than what they were intended for, crops of beets and rutabagas. But they were well cared for and they soon started.

The first of November showed as nice a crop of fair sized table roots, as I ever saw. A neighbor, who had seen them when they were put out, and a few days afterward, came to see the crop while we were gathering them. He looked at them; "well," said he, "that beats all; and did you expect a crop when you had the plants set out?" Of course I did, or I should not have had it done. Said he—"when I saw your boys putting in those plants, I told my wife that John M. Smith is good at making things grow, but if he gets a crop there, he is a smarter man than I take him for." But there was no secret about it; you can do the same thing almost anywhere in the state. Put the ground in good condition in the spring, and plant Early Rose potatoes; cultivate well and thoroughly, and in July you have a good crop of potatoes. Take them off, plow under the tops and some manure along with them, have good thrifty plants to put in, and then care for them, and the first of November, harvest a crop of beets, rutabagas or cabbage. Simply a case of good cultivation during the season, nothing more and nothing less. As a general rule, in the latitude of Green Bay, it is safe to set the large drumhead varieties of cabbage the first, but not later than the 10th of July. Celery not later than the 15th, and have a good crop. It is safe to set the Winningstadt cabbage till August 1st. The blood turnip, beet and rutabaga may also be set at this time and realize good crops. Flat turnips may be sown safely till the 10th of August, and get a good crop for table use. It may be said with regard to beets, turnips, rutabagas and cabbage for winter use, the later they are grown, provided they get a good fair growth, the better the quality, and the better they keep through the winter. A word about setting out cabbage plants. The

Jersey Wakefield will do nicely and head well, at 18 inches apart each way; the Winningstadt at 20. Most of the drumhead varieties should be 24 inches apart, while the Mammoth, Marblehead and Drumhead should be at least three feet apart each way. It is utterly useless to attempt to raise the last named except upon very rich ground; but when the conditions necessary for a good crop of it are complied with, it will produce an almost marvelous crop, and the heads will be of a very good quality, still, I think it can hardly be said to be a profitable crop for general cultivation.

A few words with regard to an asparagus bed. Your garden will never be a complete one without a good bed of asparagus. The objections to it are, that it is a very expensive crop to get started, and that it takes four or five years from the first sowing of the seed, before you can realize a full crop. But if you have a large element of eastern people among your customers, you will find it among your most profitable crops, and after it once gets to bearing it is not an expensive one to care for, but yields its annual crop with an almost absolute certainty, and that too at a time in the spring when your expenses are very heavy, and you will have but little coming in to meet them.

The new variety named Conover's Collas-sal, seems really to be an improvement upon the old kinds. The seed should be sown in a bed prepared the same as for onions, and sown early in the spring. Let it grow here the first season. When the plants are one year old, prepare your permanent bed, and be sure that you make it very rich. I would not put out a bed of an acre with less than 75 loads of good manure, and if 100 are put on, all the better. Make the rows three feet apart. I take a shovel plow and make the furrows about five inches deep, then put the plants in the furrows one to every 16 or 18 inches, spread out the roots in as near their natural position as possible; fill the furrow and pack down the earth somewhat over the plants, if your soil is a light one, level off your bed nicely, and your bed is made. This should be

done early in the spring, and in about a month the plants will begin to show themselves above the ground, which should be kept perfectly clean during the season. Early the next spring cut off all the old tops close to the ground, and put another coat of manure over it and dig it under, though you must be very careful not to dig deep enough to injure the roots of the plants, which by this time have filled nearly the whole ground after you get, say four inches deep. After your manure is dug under, rake off your bed nicely, or if you will improve it still more, before raking, sow on it the best quality of superphosphate that you can get, at the rate of say 500 pounds per acre, before you rake it. About the first of May nice purple shoots will begin to show themselves above ground, and you may begin to cut, though you must do it very sparingly this season, or you will injure your beautiful bed for many years to come. You are now at the beginning of the third year, and you will get your first returns. The bed must be kept clear of weeds, and each succeeding spring give it a good coat of manure, and work it in as I have directed. The fourth season, you may realize some profit from it, and the fifth, a full crop. From this time on, you may expect an annual crop, as well as a good profit from it for the balance of your life, if you will continue to care for it. There is a bed in my father's garden, which father has told me was there when he was a little boy 7 or 8 years old, and he is now in his 83d year.

The friends of Conover's Collasall have claimed that this variety would produce a crop one year earlier than the common kinds. My own experience has not proved the assertion to be true, although I think it an improved variety and very cheerfully recommended it for general cultivation.

Notes by the Way.

BY OLD GARDENER.

Bedding Plants grown in a warm, moist greenhouse should never be removed directly to the open ground, but rather give them a "transition state," where they may gradually harden up their delicate succulent stems and

foliage. Those who possess a cold frame covered with sash, should by all means allow plants a season of rest within its shelter. The sash should be tilted every day, gradually increasing the amount of air, until full exposure does not cause them to wilt.

Vases must have systematic attention, for if neglected once, their beauty for the entire season is not unfrequently destroyed. Even succulents that we suppose can stand any amount of drought, should have a regular supply when in a growing state, for they are at this time storing up nourishment for the remainder of the summer. A little weak manure water will greatly benefit most plants in a vase, and cause them to assume a richer, darker shade of green.

Weeds at this season of the year will become very troublesome, owing to the late spring rains. Bear in mind, therefore, that these "unbidden guests" will demand an undue share of moisture, fertilizing material and room; hence we must get rid of them without delay. The best time is as soon after they show their little seed-leaves as possible; the best tool, a small weeding fork to loosen up the soil, which not only kills the weeds, but invigorates the plants we desire to enjoy.

Two Dwarf Shrubs that have proven hardy, very attractive, and suitable for small beds on the lawn, are *Azalea amana* and *Daphne cneorum*. A small circle of each, edged with the dwarf, trailing, variegated-leaved *Euonymus radicans*, will present a beautiful sight. When out of bloom, the surface of the bed may be covered with verbenas or phlox Drummondii, and thus be made to perform double duty; or tigridias, red and yellow, may be inserted, and these are particularly showy.

An Ornamental Hedge, formed of *Cydonia Japonica*, is the perfection of beauty when in full bloom; don't be persuaded, however, that the plants should be set in alternate colors of scarlet and blush; the latter is not decided enough, and detracts from the "blaze," so to speak, of the mass of brilliant bloom seen only on a complete hedge of scarlet flowers.

Another excellent feature about this plant

is its defensive character. When properly trimmed, it will thicken up so that a chicken cannot pass through, and even the depredating fruit thieves find some difficulty in effecting an entrance.

Small Trees are a necessity in small yards, and I know of nothing better in this way than the Red Bud or Judas Tree, White Fringe, Yellow Wood or Virgilia, Laburnum, White Dogwood, Magnolias of sorts, Double-flowering Peaches (in a group), Purple Mist, and the various thorns (where they will succeed). The recognized rules of all right-minded landscape gardeners forbid scattering these at regular distances all over the lawn, but, on the contrary, enjoin it upon us to set them in groups and masses, with an occasional specimen having some marked character standing alone.

Unightly Beds of hardy herbaceous plants may be converted into attractive objects by attending to their needs. When their bloom is past, and the rather homely seed-vessels and decaying leaves become the reverse of ornamental, cut them away, and introduce in their near vicinity some flowering plants, such as geraniums, heliotrope, etc.; or we may scatter a few seeds of brightly colored annuals over the bed, to succeed the early blooming plants that are showy but once in the season.

Succulent Plants for hanging baskets are far more interesting than most people give them credit for. For instance, a fine center plant would be an *Echeveria metallica*, surrounded by other species and varieties of the same genus, and edged with the new *Othonna crassifolia* and *Sedum Sieboldii variegata*. There are numerous forms of the cactus which always look well as basket plants, and the sedums are especially appropriate for edgings. So much for the experience of an old gardener.

Duration of the Germinating Power of Seeds.—A correspondent of the *Revue Horticole*, who has had ample opportunity to make observations, says the following are trustworthy estimates, as ascertained from his own experience. They represent the periods of time after which the various seeds men-

tioned have been found perfectly good, and will be found of some service to gardeners who are uncertain whether to throw away packets of seeds or not.

Seeds.	Yrs.	Seeds.	Yrs.
Artichoke (Globe) lasts good for.....	5	Maize.....	2
Asparagus.....	4	Melon.....	5
Basella.....	3	Mustard.....	5
Basil.....	6	Nasturtium.....	5
Beans (Garden).....	6	Onions.....	2 to 3
Beans (French).....	2 to 3	Onions (Welsh).....	2
Beet.....	5	Orache.....	1
Burnet.....	2	Parsnip.....	1
Cabbage.....	5	Parsley.....	3
Cardoon.....	7	Peas.....	4 to 5
Carrot.....	7	Pepper (long).....	4
Canflower.....	5	Potatoes.....	3
Celery.....	7	Penslaue.....	8
Chervil.....	2	Radish.....	5
Chicory.....	8	Rampion.....	5
Corn Salad.....	4	Rhubarb.....	3
Cress (Garden).....	5	Salsify.....	2
Cress (Water).....	4	Savory.....	3
Cucumber.....	5	Scarzonera.....	2
Dandelion.....	1	Sorrel.....	2
Egg Plant.....	7	Spinach.....	5
Endive.....	8	Spinach (New Zealand).....	5
Fennel.....	8	Strawberry.....	8
Gourds.....	5	Thyme.....	2 to 3
Leeks.....	2	Tomato.....	5
Lettuce.....	5	Turnip.....	5

Trophy Tomato.—W. F. Massey, of Chestertown, Md., says:

We have grown this every year since we paid a quarter of a dollar for each seed of twenty in a packet, and every year we grow more and more convinced that it is *the tomato* for our market. One mistake is usually made with the Trophy—that is, too heavy manuring. Our lands here are naturally much better than the soil about New York and Newport, and if manured as the northern writers recommend for all garden crops, the Trophy tomato, in our soil, will grow rough and burst, and never ripen thoroughly about the stem. Last season we grew about seven acres of Trophy tomatoes, and the contrast between a portion well manured in the hill and those in land that had not been manured for years was very marked. On the manured land one-third of the crop was unmarketable from bursting of the skin, decay and knots; while on the unmanured part we grew smooth and beautiful fruit that would average nearly a pound apiece. For the Trophy we would select good land that would bring 40 to 50 bushels corn per acre, and apply no manure. Future cultivation may make the Trophy more uniformly perfect in shape, but we do not see that we need any better variety for main and late crop.

Fruit Culture.

Grape Culture—the Other Side

BY OLIVER TAYLOR.

IF my experience or observation in Florida, the past five years, are of any use, I willingly give them, though I am sorry to dampen any one's bright hopes, in planting fruit trees, as so many more are needed every year.

I see many persons are hoping to grow grapes in Florida for wine, or to ship the ripe grapes. My constant care, the past five years, has been to learn what profit could be realized in that way myself; but I have been forced to the conclusion that Florida soil and climate do not and cannot suit the requirements of wine-making, or grape-growing for shipment in the bunch. I tried twenty varieties at Fernandina, eighteen feet drainage; also fifteen varieties at Sand Point, Indian River, some fifteen feet drainage; and here, some twelve varieties, four to ten feet drainage.

The leaf roller destroyed the foliage on most all the kinds, except the Scuppernong and Clinton.

The fruit of all the grapes I have seen in Florida show the effect of too much water at the roots, by not ripening uniformly in the bunch, and this is the reason why it will not be profitable to make wine. The heavy rains that fall here, at any season of the year, may at any time ruin the entire vineyard in a few days. These rains are not confined to the summer, as we often read they are, but occur all through the year with as much irregularity as at other places, some seasons being dry and others wet; and after a period of some two years, a soil less than fifteen feet drainage, receiving a fall of rain of twelve inches in twenty-four hours, with not much fall to draw off the surplus, must of necessity ruin the grape roots that had been induced, during the dry seasons, to go deep for moisture. One season was so dry here in May, that the soil in a newly cleared field took fire, and burned in many places to the depth of eight feet.(?)

This irregularity of moisture will explain why so many grape-vines die suddenly here in Florida after growing rapidly and bearing one or two heavy crops. I hear of many such cases. The few cases where the Malaga and other grapes are grown near buildings, and thus protected, have induced many to think they would succeed anywhere.

The Scuppernong, of which so much is hoped for in the South for wine, will not answer for a wine grape unless some shrewd Yankee will invent some milking process to gather the grapes; they do not ripen all at once, even in their small bunches. No one can make it profitable to pick grapes at the rate of five or six cents per quart for wine making. Wine making from a wet country has never, and can never be a success like it is from drier soils and climates.

Wine cellars in Florida must be almost, if not quite, an impossibility, and even if ever constructed, I think it would require a lot of persuasion to induce any true Floridian to ever enter one during snake season.

Notes on Apples.

EDITOR HORTICULTURIST:—During an extended observation of several years, we have noticed a peculiar adaptation of varieties of apple trees to site and soil. We have found the English Golden Russett succeeding best on decidedly dry soils and sunshiny slopes or high land. Tops liable to winter kill when trees are young, hardy when older. Not an early bearer, but bears regularly and well with age. A poor nursery, but good orchard tree.

Talman Sweet chooses a strong, rich soil, where it can make a good annual growth. Young trees very liable to bark burst, and a bad nursery tree on that account. Here the tree is almost hardy—receives injury many winters, but with strong soil and good culture will recover. When in bearing is very productive, trees from 18 to 25 years old bearing 12 to 30 bushels of apples.

Fameuse thrives best on limestone, clay, loam, or oak bush land, such as is found at

Baraboo in the State. Fails on sandy land, and is worthless there. A good nursery tree, and where it succeeds, one of the most profitable orchard trees.

Dutchess of Oldenburg—hardy on most soils but suffers considerably from drouth on sandy soils. Needs a clay or loam, and will do well where it is too cool and moist for the Golden Russett. Very liable to send up water sprouts from the roots on account of early maturity of growth of top before roots naturally would.

Alexander is very hardy, but liable to fire blight. Thrives best on clay loam soil, and blights most on sandy soils and hot exposures.

Yellow Belleflower has not proven productive or profitable as far as we have seen it, and is not hardy enough to endure well here.

Respectfully,

A. L. HATCH.

Ithaca, Richland Co., Wis.

Orange Culture in Florida, Improved.

BY OLIVER TAYLOR.

A FEW inaccuracies, I imagine, occur in an article on Orange culture in Florida, in the October number, that should be corrected, viz.: Budding orange trees is not a failure in Florida, but will have to be resorted to by all careful cultivators who wish uniformity in results.

Dummit's grove is not inferior to Hart's because they are budded trees, but because Dummit's trees are not as well supplied with rich soil and abundant showers as Hart's grove is.

The close, warm air of the St. Johns favors the sweet fruit. Seeds from budded trees do not produce sour fruit because of the trees being budded. That is too shallow for science, and never proven by facts. The mixing of the pollen and the effects of culture alone can vary the quality of the seedling. The sap of the stock can in no wise change the peculiar character of the graft on it.

Larger or smaller fruit may be the result of strong or weak stocks, but never have I seen in the least degree a sweet fruit affected by a

sour stock, yet I have tried to do so by putting very sweet apples on very sour trees, but never could see any change whatever.

The orange trees of this place are all sweet seedlings, and a more varied and indifferent collection I have not seen in the State. I just now tried to eat one orange, the ripest a lady friend could find on her trees of more than 1,000 specimens, yet I could not eat all that orange, it was so sour; yet there is not a single sour tree known here, as I have been trying to get the seed. I find the best way to get good trees all over the State is to get thrifty sour seedlings and bud them low, and let them branch low, and put them in deep, rich, well-drained land, well surrounded with other trees. The best time to reset is just as soon as they commence to grow after the winter's check, and this applies to all evergreen trees; but care should be taken not to do so till the weather is warm enough to ensure growth. All the trees I can see set out here last August look badly now, and but few lived. Moving in August is more practiced in South Florida, as the climate is more moist there; yet there are failures frequently from that practice, and several persons who tried both times told me they had better success in spring planting in every case. At Sand Point they are fast learning better than to transplant a tree in midsummer just because it can be done sometimes.

To succeed in orange growing in Florida, it will be necessary to drain deeper and plant more shelter than has been done, or the results will be as now—but few fruits to many trees.

A Humorous Pruning Scene.

A HUMOROUS scene occurred one day in April at nurseries of Ellwanger & Barry, Rochester, which is good enough to stir up a little humor among the most staid of Horticulturists. It is thus told by the *Rochester Express*, with the title, "*A Pacific Pruning Prodigy.*"

In the large and beautiful laid out grounds of Messrs. Ellwanger & Barry, the famous nurserymen on Mount Hope avenue, stand about a dozen large sized California trees

(*Sequoia gigantea*) planted by these gentlemen about fifteen years ago. Some of them have already attained a height of thirty feet, while the diameter of one or two of the largest sized trees is nearly twenty-five inches. It is well known that these trees grow to an enormous size in their native State, and with proper care are also successfully grown in this section.

Last week, a fellow fresh from California who said he had had a good deal of experience with the giant trees of that State, learning that the Messrs. Ellwanger & Barry had some fine representative specimens in their grounds, applied at the office of the Mount Hope Nurseries for a situation as a pruner. Said he, "I see you have some big trees in your yard from California. I am a native of the golden State. I know all about the nature of trees. I notice some improvements that might be made in the shape and looks which will help them mightily. I came east this spring to visit some of my mother's relations, but not being able to find them, and being a little short of funds, I thought I would apply to you for a job. I can tell you something you don't know about them big trees."

By the time this fellow had finished his introductory speech, Messrs. Ellwanger & Barry, who were busily engaged in opening and reading their large volume of orders and correspondence, had thoroughly taken in, and comprehended the situation of the California adventurer.

Mr. Barry smiled when the fellow said: "I can tell you something you don't know about them big trees." However, having a good deal of the humorous in him, and seeing a chance for a little joke, Mr. Barry said, "My dear sir, those large trees you refer to, were propagated in our nurseries, and transplanted where you now see them, fifteen years ago. They were not, therefore, brought from California proper, although they are the same variety as the famous tree which grows there three hundred feet. We propagate all varieties of trees, shrubs and plants here in Rochester that are to be found in any part of the world. We have succeeded admirably with these giant trees which have made your State so

famous. We think we understand all about this genus, both here and in California, for we have seen them growing in both places."

"Yes," said the fellow, "but don't you see they ain't shaped right." "I can prune the trees to make them grow faster and look prettier." "How do you propose to do it?" asked Mr. Barry. "They are evergreens and don't require much pruning. We sometimes clip the ends of the lower branches, and give them more shapeliness, but as to cutting off the larger limbs, which I understand you propose to do, is all folly, and we can't think of it." "But," said the fellow, "you don't understand how to prune a California tree. There is a certain way of cutting the limbs, and if you don't do it that way, the tree won't do well."

Mr. Ellwanger, who had till now listened, but said nothing, here facetiously remarked that there was one of the trees in the lawn the fellow might experiment on if he had anything new to introduce in the art of pruning. Now there happened to be one among the large trees, which suffered severely by the extreme cold of two years ago. As it was evident that the tree would die any way, Messrs. Ellwanger & Barry, always on the *qui vive* for novelties as well as a good joke, consented to let the self-constituted California pruner have a chance to display his skill. Ordering a large pruning knife, a saw, and other necessary implements, Messrs. Ellwanger & Barry, all the clerks in the office, and gardeners about the place, who by this time had their attention attracted to the strange looking fellow, proceeded to the tree, which stood but a few rods from the street fence extending along Mount Hope avenue.

"There," said one of the distinguished nurserymen, "if you wish to show your dexterity or teach us something *new* in pruning, you may try it on that tree. The Californian, glad for an opportunity to distinguish himself, and also of earning something to build up his depleted exchequer, stripped off his outer clothing, which revealed a soiled shirt and a pair of pants rather the worse for wear. Nothing daunted, however, he tripped up the ladder like a squirrel, and in a moment he was at

work among the branches of the tree, cutting and slashing at a rapid rate. Branch after branch fell to the ground. In the meantime the rumor of the great California pruner had quickly spread among the immediate neighbors, who hastened to the spot.

Carriages passing along the avenue, attracted by the crowd gazing up into the tree, stopped immediately in front of it. Ladies and gentlemen making selections of house and garden plants, flowers and shrubs, when they saw what was going on, hastened to join the crowd. Stimulated by the presence of so many spectators, the branches and boughs fell faster than ever. Glancing rapidly over the contour of the tree, the fellow, who evidently intended to give it a globular shape, commenced at the lower limbs, close to the body, and gradually lengthing out as he ascended higher to the middle of the tree, and again tapering in toward the top. He had now reached to the height of about fifteen feet, when the tree, from the numerous stiff projecting branches which had been sawed squarely off, looked as bristling as an *abattis*, or the distended quills of a fretful porcupine. Despising all aid of the ladder, the fellow skipped from branch to branch with the recklessness of an old sailor aloft in a storm. Visions of the hero of Chappaqua loomed up in the minds of the eager spectators, as the chances of a misstep might prove a disaster. But our hero was not aspiring to be pressed out. He was busily engaged in the laudable occupation of earning his bread, and teaching old nursery-men a new idea. But catastrophes will sometimes happen to mar the aspirations even of modest men. Our California hero was no exception, for just as he was in the act of springing from one large projecting branch to another, his foot slipped, the knife and saw flew out of his hands, and with a somersault that would shame an experienced equestrian, he careened to one side, the rear of his pants caught on the stub of a limb, and in a moment the champion pruner was seen dangling in mid air, held only by the fragile substance composing his pants! To all present it became evident that a catastrophe was inevitable.

Striking out in every direction for a chance to relieve himself, the fellow kicked and plunged desperately, but to no effect. His only safety lay in the stability of his pants. Gyrating one way and the other, only had a tendency to hasten the disaster.

A lusty German gardener who was present screamed out at the top of his voice, "Mein Got im Himmel, bring a ladder gwick; the man will break his neck!"

The excitement became intense. A scramble was made for the ladder. The fellow up the tree, trying to perform a new trapeze performance not laid down on the bills, struggled in vain to extricate himself, but before the ladder could be elevated to a sufficient height to reach him, his pants gave way, taking out the whole seat, and ripping them down to the tops of his boots. There he hung with his head downward, suspended only by the heavy binding on the bottom of his pants. It is needless to add that the affair now became extremely critical. Mr. Barry drew down his hat, the ladies dropped their veils and turned to go. The carriages in the streets moved on. The giggling among the young folks was immense. The gardener ran to the rescue of the unfortunate pruner, and with a cloth used for gathering leaves, tried as well as he could to conceal his embarrassment. With the assistance of another man, he succeeded in taking the pruner down, not, however, until he had fairly scorched his shirt collar with blushes. Mr. Barry was perfectly satisfied that the fellow had earned a new pair of pants and a whole shirt, with which he was soon provided. As to the new points of observation gained in the *modus operandi* of pruning a giant California tree, Messrs. Ellwanger & Barry are thoroughly satisfied that the old method of pruning is the best.

The big evergreen was ordered to be removed immediately, so that the only vestige left to mark the spot is an open space upon which the sunlight had not shed its genial rays for nearly ten years. As to the famous California pruner, with a ten-dollar note and a new pair of pants he was allowed to go on his way rejoicing.

New and Rare Plants.

New Rose Gen. Von Moltke.—This new hybrid perpetual, originated by Messrs. Bell, of Norwich, England, is described as the purest scarlet rose in cultivation, and very distinct in color and character. Flowers are brilliant, velvety orange scarlet, slightly shaded with pure carmine, large, very double, of perfect shape and robust growth. It is abundantly and continuously in bloom from June to November.

Abutilon Sellowianum marmoratum.—A very beautiful variegated abutilon, exceeding in size of foliage any yet in cultivation. Its leaves measure from $6\frac{1}{2}$ to 7 inches in diameter, and the variation is of a lovely golden yellow. Introduced by Messrs. Veitch & Sons, London.

Azara mycerophylla.—A very pretty hardy shrub, introduced by Messrs. Veitch & Sons, from Valdivia, and found at an elevation of 3000 feet. It has been proved perfectly hardy in England, where it has stood out-door exposure five winters. Is described by the *Gardener's Chronicle* as "one of the neatest evergreen shrubs known. The leaves are of a dark shining green, produced upon spreading branches of a drooping character."

Dracena Hendersonii.—A very distinct and handsome sort. The Messrs. Veitch say: "There is nothing yet in commerce that at all approaches it. The habit is very elegant and graceful. It produces leaves from $1\frac{1}{2}$ to 2 feet in length and 4 to 5 inches in width, the coloring of which is light green, beautifully marbled with white and rosy pink stripes."

Ficus Parcelii.—A very grand addition to our variegated stove plants, thus described by *The Garden*: "This is one of the finest white variegated plants we have ever seen. Its leaves are as large as those of *Ficus elastica*, but are thinner in texture, and coarsely serrated along their margins. They are bright green, irregularly blotched profusely with

cream white and dark green." The plant is a free grower, maintaining its splendid variegations steadily, and was considered by the Royal Horticultural Society one of the finest of all variegated decorative plants introduced of late years.

Tillandsia Zahnii.—A most striking novelty, introduced by Messrs. Veitch from Costa Rica. In habit it is after the type of other Tillandsias, but its beauty lies in the wonderful coloring of the foliage and flowers. When in a young state, the leaves are of a deep amber color, with distinct veins of red. As the plant advances in age, the leaves turn into a rich scarlet, which increases until the time of flowering. The flower spike, thrown some 8 to 10 inches above the foliage, is surrounded by scarlet bracts. The flowers, which are produced in clusters, are of a rich golden yellow color. The contrast of the scarlet and yellow renders this a most distinct and valuable plant for decorative purposes. The under part of the leaves are amber-colored, likewise richly veined with red. It is sold in London as high as £5. At the Ghent International Exhibition, 1873, it received first prize as best new plant.

New Delphinium Keteleerii.—A new and very fine perennial hardy larkspur has been introduced in England by A. Waterer. With him it grows 3 feet high, having bold, deeply-parted leaves, 10 inches across; flowers in dense spikes, nearly a foot long, having several short branches at the base. The blossoms are double, about an inch and a half across, cerulean blue, the center and base of the petals tinted with rose, a tuft of small white petals forming a white eye.

New Double-flowered Hardy Delphiniums.—The following new double sorts are mentioned by *The Florist* as very desirable:

Madame Jacot, large, soft blue or amethyst.

Dr. Edwards, dark blue, a noble spike.

Princess of Wales, sky blue, with white center.

Madame Le Bihan, blue, shading off to pinkish violet.

D. Sinensis flore pleno.—Most brilliant of all the double sorts. Perfectly hardy, a true herbaceous perennial, which may be readily increased in the spring, either by division or from cuttings, the latter, taken off when a few inches high, rooting freely. The color is an intensely bright, dazzling, metallie blue.

Delphinium formosus.—Of the new single-flowered sorts there is a very effective one—*Cambridge*, of a pale grey blue, with black center, distinct in character and really attractive.

New Azaleas.—*Azalea Indica, Imperatrice Charlotte* (Comte L. de Beaufort).—Exceedingly large flowers, of perfect shape and substance, dark crimson, slightly salmoned, with broad red-orange stripes on all the petals, and broadly margined with a pure white band, and a dark red-brown blotch on the upper petals; one of the very finest and most distinct varieties ever sent out. Introduced by Jean Verschaffelt.

Azalea Indica, Comte Margaria (J. Versch.).—Large semi-double flowers, of a very beautiful rose color, with crisped undulated petals, fine foliage, and a very free flowering variety. Very fine.

Azalea Indica, Docteur Binet (J. Versch.).—A beautiful variety, with large double flowers, opening very freely, of a distinct salmon-rose color, well marked on the upper petals.

Azalea Indica, Reine de Portugal (J. Versch.).—This is one of the finest and most recommendable novelties; the flowers are fine and large, of good form and substance, beautifully double, of the purest white, slightly greenish in the center when first opening, now and then a few rose stripes; fine foliage, and a very free flowerer. Extra. Will be grown extensively when its merits are known.

New Flowers in London.—*Roses*—*Madame Francois Janire*, having bright orange buff flowers, of a distinct hue of color, and very beautiful in the bud.

Madame la Charmee.—New white hybrid perpetual. Flowers large, full and finely developed; not wholly white, as center of the flower is heavily tinted with pink. A capital

forcing rose for blooming, and of a vigorous habit of growth.

Pentstemon Palmerii.—Imported into England and flowered by W. Thompson, of Ipswich. He writes of it as follows: “‘*Pentstemon Palmerii*’ of Asa Gray is a well marked species, allied to *P. cobaea* and *P. Jamesii*. It grows 4 feet high or more, developing secondary shoots from the base of the main stem. One does not often see so distinct a species, some of its more striking features being the dilated corolla, the elongated lobes of the lower lip, and the bearded sterile filament. The foliage, moreover, is bold in character and very glaucous, the stem leaves, especially those of the main stem, being strikingly connate.”

The Florist also says of it: “The flowers are rather more than an inch long, the tube remarkably inflated above, and contracted just at the base, where it is set into the short, inconspicuous calyx. The color is a pale rosy lilac, with a purple stripe running down each of the lobes of the remarkably elongated and deflexed lower lip, while the upper lip is projected forwards and merely revolute at the edge. This novelty is very ornamental in character, as well as perfectly distinct, and will be welcomed in every garden where hardy perennials are cared for. It comes from the Sierra Nevada in California, at an elevation of 5000 to 6000 feet.”

Adiantum gracillimum.—“One of the most elegant ferns in existence. Introduced in England by B. S. Williams. Its fronds are about a foot in length, and some 8 inches to 9 inches across the widest part. They are very distinctly five times pinnate. The texture of the frond is very thin and fragile, and its color is a very pale yellowish-tinted olive-green. The multiplicity of minute pinnules, and the almost invisible ramifications of the roots give the plant a peculiarly charming appearance.—*The Florist*.”

Clematis Lucie Lemoine.—A charming pure white double-flowered variety, belonging to the *C. fortunei* section, and well adapted for conservatory work. Introduced by Messrs. Veitch & Sons.

Travels.

Curiosities of Horticulture in Southern France.

A CORRESPONDENT of the *Journal of Horticulture*, from Nice, furnishes some interesting notes of observation as to plants, flowers and horticultural occupations.

"One of the most valuable introductions of late years has been that of the Eucalyptus, or Australian Gum Tree. The growth of these trees at Nice is quite wonderful, springing up sometimes 9 feet in the season. I have a section of a tree only nine years planted, which is 2 feet 6 inches in circumference, and the wood is exceedingly hard. Thousands of acres are, I am told, planted in Algeria, and they are speculating upon planting them near Nice for the purpose of making railway sleepers. They are singularly beautiful trees. The leaves up to about 12 feet high are oval, thick, and of a powdery, glaucous color; above that they completely change their shape into a long, narrow, sickle shape and green color, free from powder. When first shooting out they have every shade of red and purple hues, and are very ornamental. What purpose of nature is effected by this change of leaf I cannot imagine. We are accustomed to suppose that the holly losing its prickles where it shoots above the reach of cattle is because nature does not grow prickles where not of use. Perhaps some Australian reader may supply some reason for this change in the Eucalyptus.

The next tree that arrests one's attention in the neighborhood of Nice is the *Schinus molle*, or False Pepper Tree. It grows to a large size—about 40 feet high, and with its light pinnate foliage, is one of the most graceful of trees. But the palms are what give a quite oriental character to Nice. Although well known of old in the palm forest of Bordighera and along that part of the Riviera, they are of comparatively modern introduction into the town and environs of Nice. They are now everywhere along the promenades and in the gardens around Nice. They trans-

plant them from Bordighera, often paying £50 for one tree, and they seem to bear removal admirably. They flower and bear fruit, but do not ripen it. The Date palm is the commonest, and its long raceme of yellow fruit is very ornamental. There are good specimens of the Sago palm, but not many. There is said to be only one male plant of the Date palm in the neighborhood of Nice, and it is in the garden of the Villa Bacquis, behind the English church. One of the best palm trees is in the Rue St. Etienne. It has a stem 28 feet 6 inches high to the springing of the leaves, and to the top 44 feet 6 inches. I do not think there are many higher.

There is one very fine specimen of the *Cedrus Atlantica*, and I believe the only one in that district of Nice. It is a very beautiful tree, with a straight, clear stem of 27 feet, and then a fine spreading head, making the extreme height 59 feet; the girth at 4 feet from the ground, 6 feet 6 inches. The two best specimens of the *Ilex* I saw were at the convent of Cuniez, which are supposed to be of great age. Their girth at 4 feet is 8 feet 4 inches one, and 8 feet the other; height only 50 feet; but they are very wide-spreading trees. The *Phytolacca* is much planted, grows very vigorously along the sea shore, and is there, on the Promenade des Anglais, headed every season, and makes long, vigorous shoots in the summer.

Another of the most graceful trees on the promenade of Nice is the Tamarisk, which is grown as a standard alternating with *Phytolacca* and palms, and forms very beautiful heads of raspberry cream colored flowers. One of the most striking and beautiful of the trees is the Carouba, or *Ceratonia siliqua*, the long, bean-like fruit of which is used for feeding horses. It is a very beautiful evergreen, with close, dark green foliage, not unlike some smooth-leaved hollies. It seems to flourish out from the crevices of rocks where nothing else would grow. On a steep precipice in the neighborhood of Mentone I found one old tree, the stem of which, from the nature of the ground, I could not accurately measure, but estimated it about 12 feet in circumference.

Those plants that struck me as new to us who live further north are the *Araucaria*, or *Colymbea excelsa*, which grows rapidly, and flourishes in a situation fully exposed to the sea at the Villa Gasteau, now called Les Palmiers, at Nice. I estimated the height of two of these perfect trees growing without having lost a branch, and in the most vigorous manner, at from 30 to 40 feet high. These gardens, upon which a banker of the name of Gasteau had lavished enormous sums of money on works executed in the worst possible taste, contain some of the finest points of view in the neighborhood of Nice, and some of the rarest trees. M. Gasteau having naturally failed, the place was bought by a Dutchman, who is dividing it into separate villas. I had fortunately walked in at the open gate and seen the most of the garden, when I was told that visitors were not allowed in, and of course retreated at once, and wrote a note to the proprietor, asking his leave to walk through again, as I wished to observe the height and make sketches of some of these trees, but got so peremptory a refusal that I can only allude to the height of the *Araucaria excelsa* by guess. One thing struck me as curious, that wherever I saw the *Araucaria imbricata*, which flourishes so well here, it seemed not to flourish at all there, and the *Colymbea Cunninghamii* seemed also very struggling. The *Russelia juncea* grows in the Jardin Publique, at Mentone, to about 12 feet high; but a rather similar plant, the *Casuarina equisetifolia*, seems to flourish at Cannes in a most remarkable manner, growing 18 inches in the year, and looking as flourishing as a young Larch tree. In Algeria they grow into timber trees. I was surprised not to see the *Catalpa*, which scents the air of Como, and the *Paulownia*, of which I saw at Tours a large tree covered with beautiful and fragrant flowers, and both of which would, doubtless, flourish on these shores of the Mediterranean. The Australian *Acacias* grow to a great size. *Longifolia* is the most common, and I saw at Cannes the Camphor laurel in perfect health and 12 feet high.

Let us now turn to the shrubs, which are

more or less of an exotic character with us, and which strike the tourist as most remarkable for beauty. First comes the *Wigandia*, which is treated as an annual in the neighborhood of Paris, and here as a greenhouse plant. I saw plants of it 10 to 12 feet high, and spreading over 15 feet, covered with its beautiful purple flowers, and existing perennially, although a very severe winter sometimes cuts it down. Next comes *Sparmannia Africana*, one of the most popular plants, both in gardens and in pots for house decoration; it is quite hardy at Nice, and seen everywhere. Then there are *Crataegus*, or *Photinia glabra*, which grows 10 or 12 feet high in large bushes, with beautiful foliage, varying from shades of red when young to deep green, and large *Laurustinus*-like flowers of blushing white; *Pittosporum Sinense*, *Ribes rosiflora* and other varieties, *Habrothamnus elegans*, *Aralia papyrifera*, *Abutilon*, *Justicia*, *Salvia*, a pretty white shrub, called there *Salvia Oceana*, not noticed as such in the *Bon Jardinier*; *Solanum marginatum*, *Ficus rubiginosa*, *Anthyllis Barba-Jovis*, *Cyananthus*, *Pittosporum undulatum* and *Heliotropes* flourish perennially in the interesting garden of Dr. Bennett, near Mentone. The *Anthemis Parthenoides*, which is used so much as a pot plant in Paris, grows freely everywhere, and I saw a yellow variety at Nice which I thought very pretty. There is one great favorite in the villas about Nice which I cannot admire. It is *Cineraria populifolia*, which is something like a gigantic ragweed.

I shall just notice one other little plant which strikes the stranger's eye in the country about Toulon, the Everlasting, or *Helichrysum orientale*. One sees large fields carefully cultivated of this plant, which looks like a common pink, only that the leaves are whiter. This is cultivated largely to supply the crowns that cover the graves in Père la Chaise and other French cemeteries, as an emblem of lasting sorrow and immortality.

Many of these plants would only attract the notice of one accustomed to look for pleasure in contemplating the beauties of every variety of vegetable growth; but the orange groves,

the citrons, the roses, the camellias, the universal undergrowth or carpet of Parma violets, are what charm the many. In the neighborhood of Nice, one of the most charming of orange groves is the Villa Bermond, where the fruit is sold fresh from the tree, and where plants of 5 or 6 feet high can be bought for ten francs, and carefully packed for eight francs per each package of four trees. I was there on the day that the Prince of Wales ordered some of them, and I note this for the benefit of owners of orangeries in England.

Perhaps the finest orange grove is at the Jardin des Hesperides, near Cannes, which is, I suppose, some ten or twelve acres in extent, and all large orange trees, some 12 feet high, and with round heads, loaded, at the time I saw them, with ripe oranges as fully as any apple tree is with apples in our orchards. It is crossed by broad, well-kept gravel walks, dividing it into square plots, and there are seats in which visitors can sit and eat as many oranges as they choose to buy for a few sous. As the fruit was thus ripened, the trees were bursting out into full flower again.

Ornamental Planting near Railroad Stations.

MR. H. W. S. CLEVELAND, of Chicago, by a forcible address on the advantages of ornamenting railroad grounds has stirred up a very lively interest on this topic, and it is believed there will be some good results springing out of it. In the course of his address, he gives a few useful hints which we quote: Hemlock, pines and other evergreens are inappropriate, as a general thing, for such a situation. It is essential to the full development of their beauty that they should preserve their branches from the ground up, so as to present a full mass of foliage, and there is rarely room enough near a station to admit of such development. If, however, as is often the case, there is a deep cut in near proximity, an exceedingly picturesque effect may be secured by planting the embankments with evergreens, and mingling with them an occasional clump of birches;

and, after they are well grown, plant also Virginia creeper and bitter-sweet here and there and let them run at random over the trees.

For the rest, make no attempt to produce a fine effect, in which you will certainly fail, but study only convenience and comfort and you will probably secure results of beauty which will surprise you. Devote as much room to roads and paths about the station as the necessities of the public can possibly require, and have it nicely gravelled and kept watered. All the rest of the land at your disposal should be planted with trees and shrubs, or kept in grass. Plant such varieties of trees as grow most vigorously and beautifully in the adjacent country, and plant them where they will do most good, either by giving shade where it is needed, or by concealing out-buildings or unsightly objects. But whenever and wherever you plant a tree, be sure and do it as though you loved it, and give it abundance of rich earth and space enough to grow it. Flowering shrubs and vines may be used in many places where there is not room for trees, and will go far to relieve the bare and cheerless look which is the usual characteristic of such places. The ground around the trees and shrubs should be kept loose and clear of grass and weeds for a year or two, but all the rest of the area, except what it devoted to roads and paths, should be kept in grass and cut to a close, fine sward, and in time of drought should be carefully watered, which can easily be done at most railroad stations. The refreshing effect of a bit of rich green sward is especially grateful at a time when nature wears a universally parched and sun-burnt look, and railroad companies or real estate proprietors in the vicinity of railroad stations would promote their own interests by taking the first steps toward an improvement which is so much needed.

To revive wilted cuttings, *Hearth and Home* says: Mix three or four drops of spirits of camphor with an ounce of water and keep their stems in this fluid for half a day or more, in a dark place, till they have entirely recovered.



Acer Negundo Variegatum.

Editor's Portfolio.

Proceedings American Pomological Society.

These are at last finished, after constant labor and care in preparation, and are now being mailed to respective members. It is a pleasure to add, as we look at this handsome volume of nearly 200 pages, that it is by far the most valuable and perfect of any ever issued by the society. We speak only the truth when we say, the reports of the discussions are in detail more extensive and full than of any previous meeting, while the other departments, which have been closely supervised by Messrs. Barry and Downing, as well as Messrs. Wilder and Manning, contain information of the greatest value. As a record of the twenty-fifth anniversary of the society, it has a peculiar value, and it seems to us, every horticulturist in the United States should esteem it an unusual pleasure to be able to possess this memento of the very best horticultural society the United States ever possessed,

Western New York Horticultural Society.

It was a good plan to issue the proceedings of the last session in a neat and handy pamphlet. We cannot help liking this association for its good work, and the steady, business-like way it has of discussing the most practical topics of the times. We can get at a sound idea in its reports easier than any other horticultural society in the United States, and there is less waste of words in its report than any we have ever seen. The pamphlet has but one fault—the insertion of a ridiculous series of answers to its questions, by a horticulturist who is not just now very popular. It is distracting to wade through so many of his words to get so few ideas; and out of the first nine answers we defy any one to find either dignity of style or addressing a society, or any information worth having.

The Phylloxera on Fruit Trees—A New Danger.

Mr. Erni, the United States Consul at Basle, Switzerland, writes to the Department of Agriculture, that he learns from a Berlin journal that the *Phylloxera vastatrix* has

been found extensively on fruit trees imported from France, and that the intention of the German and Swiss governments is, in consequence of this discovery, to prohibit the importation into those countries, from France, of fruit trees, as they have already done, for some time, of grape-vines.

Fruit Prospects.

There has never been so cheering an outlook from all parts of the United States for fruit crops, as this year. We may expect a most bountiful season, and even the grain is admitted to be the most promising for many years. Truly, we need some encouragement in these depressing times. General business in New York city has not been so dull for twenty years, the general volume of trade being less now than it was immediately after the panic.

Rose Congress.

There is to be held an International Rose Congress at Geneva, Switzerland, on the 3d, 4th and 5th of July, this year. Discussions and essays on roses may be expected from all the best rose-growers of Europe.

Garden Decorations.

In our frontispiece are figured two very pretty and useful structures for decorating the lawn and garden.

Fig. 1 is a little summer-house for the garden, or among the shrubbery of the ornamental grounds, which has become covered with a perfect luxuriant mass of climbing vines. It is constructed of wood, very tastefully cut, and joined in fancy open-work figures, and its interior is apparently formed of various colored woods joined together, and varnished, forming a pleasing variety of native inlaid work. A table of same construction stands in the center, which is used for reading, or games. The ornamental shrub at the left hand may be either the *Spiræa* or the *Weigela*, while on the right hand is a vigorous clump of *Hollyhocks*.

Fig. 2 is suitable either as a garden screen, or better, to be placed in the center or side of a lawn path wherever there is a pretty view of scenery in the distance. Looking through the oval opening, the vista seems more distinct, and being less in extent, its beauty is en-

hanced. Short trellises are placed close to the ends of this frame, upon which are growing climbing vines. The structure is made entirely of wood, ornamented at the top with curved wire rods and bells, like the Chinese garden, house or temple. The climbing vines most suitable for planting here are Aristolochia, Trumpet Creeper, and Morning Glory. Best annual flower to plant at base in front is the *Salvia splendens*.

Eucalyptus.

The foreign journals are still discussing the miraculous effects of eucalyptus—at first as a cure for the phylloxera, and now some genius finds it capital in *cure of fever*. But you must use the right kind—not the *latifolius*, but the *longifolius*.

A Garden School.

At Weimar, Germany, there is a garden industrial school, the object of which is to instruct school children, from their eighth to their fourteenth year, in their hours out of school, in gardening and in kindred industry; and also to fit young men who have left school, for practical gardening, an employment which is in great demand in that country. This school was established in 1853, partly from the proceeds of charitable meetings and partly from church offerings. A piece of land was purchased near the city, and devoted to this purpose, under the charge of a board of administration, with a director at the head. Three members of the board control the departments of trees, vegetables and flowers; another member has charge of the accounts and the funds, and one has supervision of the property and of the sale of the productions. The director and the committee serve without salary, and with no returns except for actual expenses. At the head of the practical working of the institution there is a superintendent, who is both skilled in all garden industry and in the art of teaching. He has a salary, a house free, and a share of the profits of the garden. Under him there are three master gardeners, or overseers, who have severally charge of the nurseries, the vegetable garden and the winter work. The last of these is an experienced carpenter, who has care of the

planing and earving benches, the repair of the garden tools, and the oversight of the chamber furniture. Additional help is given by pupils who have been trained in the institution, and who, after their confirmation, learn gardening as their future occupation. These have to go through a three years' course in the institution without paying any fees. After a certain time of probation they receive a compensation, which increases according to the capacity shown, in the second and third years. The oldest boys have charge of the flowers, the watering and the pot plants, and from four to eight boys are in this department, while the younger boys have their regular and appropriate tasks. Every day the superintendent sets for them and the overseers the work which is required by the season of the year.

Their winter work is of various kinds, from basket making to straw braiding and envelope folding, and they sing a merry song as they work, or a story is told, or one of the older boys reads from a pleasant book. This school is supported by free gifts, and by the proceeds of the sale of the produce. One source of income is from the sale of nosegays, which are delivered every week, and paid for at a monthly rate. Such an institution has never found existence in America. Who can predict its success if it were tried?

Keeping Grapes.

A successful European method is to cut them with plenty of wood for stem, and insert this in a bottle full of water; the bottle may be set in a sloping direction upon a shelf, and the bunch hanging over the neck touches nothing. Kept in this way in a cool room, where the temperature never rises above 45 degrees, they have been known to last at least two months. The loss of berries is very small.

A Novel Horticultural Society.

A floral, gardening and horticultural society was formed the last year at Friends Academy, Union Springs, N. Y., and at the first meeting twenty-four persons, mainly students, enrolled their names as members. The small entrance fee goes to the purchase of seeds, bulbs and plants. A leading object is ornamenting and polishing the grounds of the in-

stitution, of which there is an acre of lawn and trees immediately surrounding the building, with a two-acre oak grove adjoining. The members of this horticultural society have already laid out and planted circular and elliptical flower beds with bedding plants and the seeds of annuals, and have cleared up the grounds and given them a handsome finish. The members (many of whom belong to the class in botany) have been favored at some of their meetings with discourses on practical gardening principles on which success depends, and an evening lecture on vegetable anatomy was given by Mr. John J. Thomas, one of the managers of the academy, illustrated with over fifty magnified pictures, thrown by means of the sciopicon on a twelve foot screen. This is the only organization of similar nature with which we are acquainted in this country.

Giving Credit.

We like to give credit to all periodicals when we can. To all our American periodicals and agricultural journals we are exceedingly particular, but there are many paragraphs which appear in miscellaneous journals not credited to any source, and in quoting thus they often go without special credit. This has been the case several times with articles which recently we learned appeared originally in the *Country Gentleman*, but which we saw in other papers without credit. We quote frequently from our esteemed cotemporary and always with credit, when we consult its pages directly.

If we wish to use any matter from English sources, we are not ashamed, but rather always glad to give credit whenever possible, but some of the English horticultural press return these matters of consideration with bad grace, and study to ignore anything that is American.

An Unmitigated Abuse.

There is a journal published in England, known as the *Villa Gardener*, which constantly appropriates matter from THE HORTICULTURIST and other journals without a word of credit. And if the name of the author is added, it is almost invariably mis-spelled, so as to appear like an original contribution

from another party. It was somewhat aggravating to our feelings, lately, to find that some articles written for THE HORTICULTURIST, originally by Annie G. Hale, on Everlasting Flowers, and paid for by us as special articles, and *duly copyrighted*, were quoted bodily in the *Villa Gardener* with no credit to THE HORTICULTURIST, and the author's name was mis-spelt *Hole*. The same article found its way with its errors into the *Gardener's Record*, of Dublin, Ireland, and was credited to the *Villa Gardener*. In one issue of the *Villa Gardener*, over five pages were taken bodily from THE HORTICULTURIST without any credit; and in another issue, an article was wrongly credited to *Agriculturist* instead of HORTICULTURIST. Any journal, which makes such studied point of ignoring all possible credit to any other literary periodical, and apparently lives on the borrowed honor paid for from other publishers' pockets, deserves criticism.

Reports of Department of Agriculture.

Although it is the fashion for all agricultural journals to abuse the United States Department of Agriculture, yet we say with confidence that the last issue of monthly report of that department, for February and March, 1874, is *better than any single number of any agricultural journal we ever saw*. It is teeming with condensed information from all parts of the United States as to successes with various crops, and the costs and profit of each crop are determined with an accuracy we have not seen equalled elsewhere. As long as the President will permit a competent man to edit the publication and run its machinery entirely free from politicians, we say the department will do good. It should be as independent as the Smithsonian Institution from political interference.

Acer Negundo Variegatum.

In Battersea Park, London, where there is gathered many gems of ornamental planting, there is a mass of this maple which forms a very attractive feature. The plants are still young but growing fast, and in that moist climate it proves exceedingly valuable.

In our American climate we wish it could

find a congenial home. It is grown by several of our leading nurseries, and all unite in commendation of its strikingly handsome characteristics of foliage, so beautifully variegated, but, alas, it does not stand the hot dry sun. Perhaps it may yet be fortunate with those who have for it a good cool, moist locality. Think of a maple, handsome in form and vigorous in growth, covered with a glorious radiance of starry leaves, green and white-striped, not unlike, in effect, the brilliancy of the *Euphorbia Variegata*.

Apple Growing in Western New York.

Occasionally, the apple crops of the western or lake counties of New York bring the owners large sums of money.

Lying within the limits of Niagara county, and bordering on Lake Ontario, are 30,000 acres of land, all suitable for orchard purposes. The breezes from the lake keep up a steady temperature, cool in summer and far from severe cold in winter, affording a climatic temperature of uniform degrees. Almost every farm has its orchard, and some farms are all orchards. Every year there is a crop of some size, and in the alternate years the yield is very large. The orchards are uniformly well cultivated, and the apples are nearly always large, fair and in excellent demand. The varieties most popular are Baldwin, R. I. Greening and Roxbury Russet. From one orchard of 19 acres there was sold, two years since, \$7,230 worth of apples. From another orchard of 140 Baldwin trees, there were sold 980 barrels, for \$3.25 per barrel.

The Garden Library.

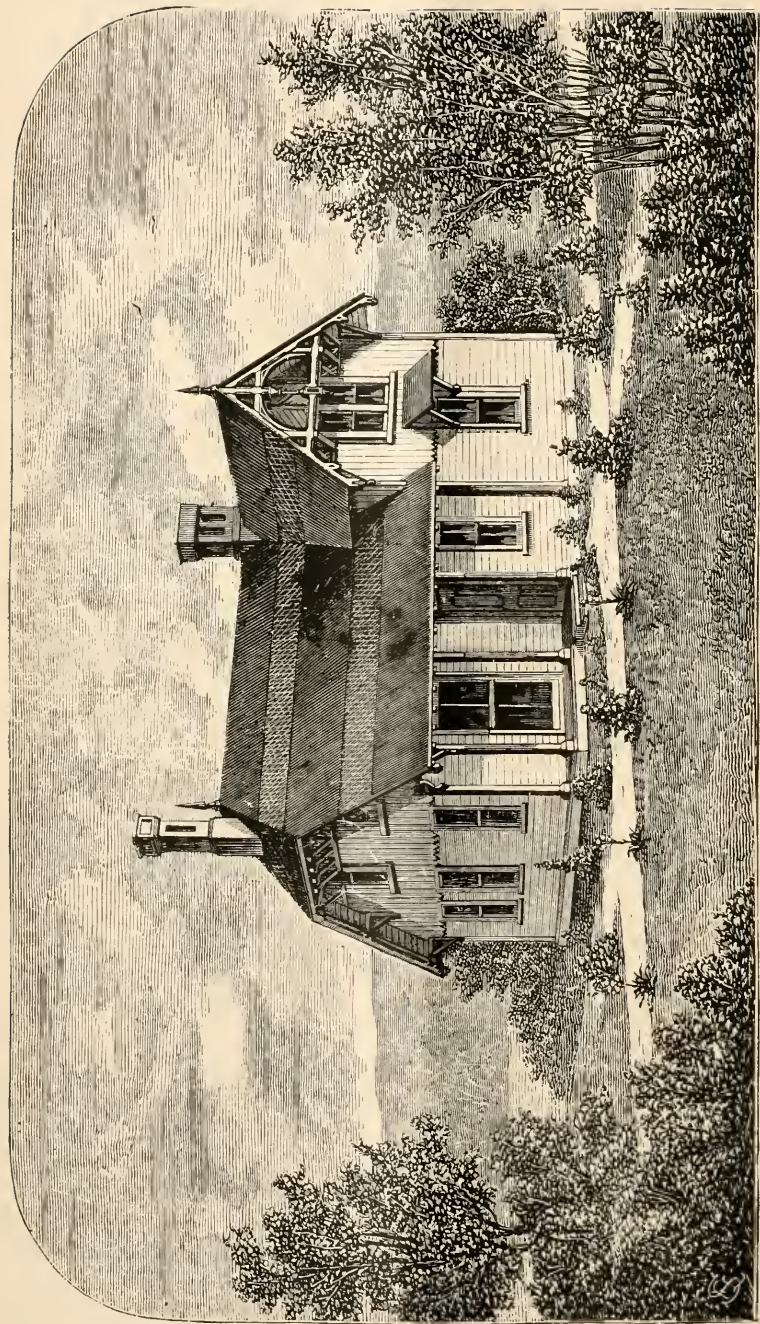
Mr. William Robinson, publisher of *The Garden*, London, England, has commenced what is known as the Garden Library, viz., a list revised weekly of all books on gardening now obtained in England and for sale or to purchased through his office. The idea is a good one, for many rare and valuable books, the moment they are offered in market, are immediately added to this list and made public. We trust such a plan may yet find imitation in the United States. We observe the evident prosperity of *The Garden* continues, and that its size is increased from 32

to 40 pages weekly. Its paper and arrangements are very tasteful.

Still Another Early Peach.

We have given considerable prominence to the Early Beatrice and Alexander Peaches, for we desire to encourage really meritorious varieties. But even their peculiar merits of extra-earliness are to be disputed soon, for we learn that there is a seedling in California which matured ten days before the Beatrice, and another in Missouri also claims an earlier maturity than either.

Kansas Pacific Railway.—The main line extends from Kansas City, Mo., and Leavenworth, Kansas, both flourishing cities on the Missouri River, through Central Kansas and Eastern Colorado. 639 miles, to Denver, Colorado, and with several hundred miles of branches, in addition, reaches every portion of Kansas, Colorado and New Mexico, and all of its fertile valleys. Rare opportunities are offered for acquiring homes in a section of country unsurpassed for fertility and health. The State Capital, State University, State Agricultural College, State Normal School, Blind Asylum, etc., of Kansas, are all located immediately along the line, and the educational facilities generally are unequalled. By reference to the United States Agricultural Reports, it will be observed that Kansas had a greater yield to the acre of the cereals than any other State, and gold medals and diplomas for the greatest and best display of fruit and agricultural, horticultural and mineral products, have been awarded at the great exhibitions and fairs throughout the land in competition with the other States. For the tourist and invalid, a varied and charming landscape is presented; and the delightful air of Colorado, and the now justly celebrated Cold, Warm and Hot Springs, in the vicinity of Denver, have given renewed life to the weary and have restored health to the sick. Don't fail to take a trip over the Kansas Pacific Railway, and if you want a good home, be sure to settle along its line. You can obtain maps, circulars, etc., giving all information, by addressing General Passenger Agent, K. P. R., Kansas City, Mo.



DESIGN FOR SUMMER COTTAGE.



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Special Contributions.

Ornamental Vines.

BY JOSIAH HOOPES.

THESE may be classified into two divisions, the one with perennial and woody stems, the other consisting of annuals, to be raised from seeds every season.

The first of these is of the greatest importance to the landscape gardener, not only in producing beautiful effects in the immediate vicinity of the buildings, but for thickening up masses of foliage on the lawn, and in many instances for imparting numerous rich tints during the autumn months.

Among the most rampant growers might be mentioned the *Wistaria* family, a hardy, beautiful class of vines of the easiest cultivation. The Asiatic species, *W. Sinensis*, is without doubt the most preferable, although not so rapidly increased as is our native species, *W. frutescens*.

The former shows to great advantage when trained along the summit of a tall fence, or in

fact in any situation where it will have sufficient space to develop its beauty.

When in bloom, an old specimen, well cared for, is about as showy an object as one can possibly possess. The long racemes of pale blue pea-shaped flowers are produced in the greatest abundance, and the vine is always pleasing and graceful in growth.

Our American species, the *Glycine*, is not so strong a grower, has short, dense racemes of purplish flowers, and is very distinct in many respects from the above. It is, however, well worthy of cultivation.

The White Chinese *Wistaria* is a superb vine, differing from the species only in color, but that is so pure, and so remarkably conspicuous, as to place this variety among the indispensable climbers.

The new double flowering form is said to be a great acquisition, having bloomed in this country, around Boston, where it is hardy and entirely satisfactory. If we may be allowed to prophesy a little, we believe this variety will prove to be one of the most popular vines in our list. A new species from Japan has been introduced into our collec-

tions under the name of *W. multijuga*. It has not bloomed here as yet, but it is unquestionably hardy, and brings a good character for ornament along with it.

There are several other forms of the *Wistaria* genus, but none of sufficient interest to recommend.

To describe the Honeysuckles, seems very much like introducing an intimate friend, so well are they known to every lover of trees and plants, and yet there are a few kinds that are not generally planted, notwithstanding their decided claim to superiority.

For particular situations we wish nothing better than the old *Red* and *Yellow Coral*; they are unique in flower, bright in color, and bloom freely. *Douglas'* Honeysuckle is very showy, with its dark crimson flowers. The old *Belgian Monthly*, with its exceedingly fragrant blossoms, should be planted in situations where the foliage is not likely to be disfigured with mildew. We have nothing better to take its place. The old *Evergreen*, too, is excellent for covering extensive trellis work, and, in fact, it must have plenty of room, for a tangled mass of twigs and foliage is the reverse of ornamental. The old-fashioned *English Woodbine* is pretty and deliciously fragrant, but then it blooms but once, and is superseded by better kinds. The *New Japan Evergreen Honeysuckle* (*Lonicera brachypoda*) is valuable for its strong growth and numerous pale, sweet-scented flowers. Its variety, the *Golden-veined* (*aurea-reticulata*), has proven to be one of the most popular of its class, as it is used for several purposes in landscape gardening. It is a rampant grower when once fully established, and in consequence is useful for covering large buildings, etc., and yet it forms a capital plant for vases or for edging flower beds on the lawn.

We once noticed a building covered with this vine in company with the American Ivy, just as the autumnal tints were fully developed—the golden tints of the former, and the brilliant crimson of the latter contrasted so charmingly, that we doubt if a finer effect could be produced.

Lonicera Halliana is a new species from

Japan, and has given universal satisfaction as a hardy, beautiful climber. The flowers are white, and are produced in great abundance. The species and varieties of this genus are almost endless, judging from some of the lists of foreign nurserymen, but the foregoing constitute the cream of the collections.

The *Tecoma*, or as some still persist in classifying it, the *Bignonia*, or Trumpet flower, embraces a choice list of vines. The best is the Asiatic species *T. grandiflora*, of vigorous growth, with splendid, large blossoms of a pale orange color, pendulous from the tips of the branches. It attaches itself to neighboring objects by means of rootlets. A nearly allied foreign species, the *T. Thunbergi*, has deep-green, glossy foliage, and flowers similar to the above. Our native vine, *T. radicans* is valuable for covering unsightly objects—the flowers funnel-formed, scarlet, and very showy. There are numerous varieties from the last named species, all pretty, but not sufficiently distinct.

The *Bignonia* proper has but one representative here, the *B. capreolata*. It climbs by means of tendrils, and produces bright orange-colored blossoms. It is a native of the Southern States, but will succeed as far north as Pennsylvania.

One of the choicest of all hardy climbers is the somewhat recent introduction from Japan—the *Akebia quinata*. Its growth is reasonably rapid; the foliage arranged in fives, and very neat and pretty; the flowers in clusters, purple in color, and pleasantly fragrant. For twining about the trellis work of a portico, or over a small cottage front, it has no superior.

Well, what about covering a large surface? is the frequent inquiry of novices who are about starting new places. We answer, there is nothing surpasses the *American Ivy* (*Ampelopsis quinquefolia*) for the purpose.

All summer long it presents a perfect mass of green verdure, changing in autumn to the most brilliant tint of crimson. Indeed it leads the list of gorgeous colored leaves: and then, too, it is so hardy, and grows so rapidly, that no rival has a chance in the race for

superiority. *A. Veitchii* is a recent introduction, which promises to be exceedingly popular. The foliage is small and neat, and presents the same beautiful color in the autumn as the above.

One of the finest specimens in this country, perhaps, is to be found in the celebrated collection of H. H. Hunnewell, Esq., at Wellesley, near Boston, where this plant completely covers the Lodge at the entrance gate with its pleasing foliage. It is also a capital plant for vases and hanging-baskets, the small size of the foliage and slender twigs making it very appropriate.

There is a native vine not often found in our collections, which is exceedingly ornamental when in fruit—we allude to the *Staff-Tree* or *Climbing Bitter Sweet* (*Celastrus scandens*). In the autumn the plant is abundantly supplied with orange-colored pods, which split open and show the scarlet coated seeds within.

The *Grecian Silk Vine* (*Periploca Græca*) is a valuable climber, reaching to the tops of tall trees when it is allowed to grow at will. The flowers are small, brownish-purple, and arranged in loose clusters.

The common ivy (*Hedera*) is too well known and appreciated to need any description in this cursory list of vines, but if any additional testimony as to its worth be needed, then we are ready to add our experience in its favor. Some prejudiced gardeners have stated that it ruins the walls to which it clings, by causing excessive dampness and consequent decay. If this be so, some buildings over a century old are examples of very slow decay; for we know of ivy-covered walls that, to all appearances, will last another century, just as readily as they have stood the past one hundred years. The varieties of this genus, and species as well, are so exceedingly numerous, that Shirley Hibberd has considered them worthy of a volume to themselves. The larger portion of the variegated forms are not suited to our climate, but they are handsome plants for filling vases, baskets, etc. They are fond of the shade and moisture, therefore the south side of a building is the poorest position to plant them.

Among old-time flowers, the *Jessamine* holds a prominent place. What a pity the vine is not more hardy in some of the species, especially *J. officinalis*—the common *White Jessamine* of gardens. At the South nothing can surpass the exquisite perfume of its blossoms, nor the pure white color for bouquet purposes. When fully sheltered, it succeeds pretty well as far north as Philadelphia and New York, but an unusually severe winter destroys the entire top. Of late years we have introduced a variety with beautiful variegated foliage, the markings being white, yellow, and pink; and strange to say this foliage never seems to burn with the sun, but if there is any change when fully exposed, the tints are really intensified in depth. It blooms freely, and retains its agreeable odor. Whoever has once possessed a specimen of the *Naked-flowering Jessamine* (*J. nudiflorum*), we presume would not like to be without it ever after. It is really the “harbinger of spring,” only needing a warm day to put forth its golden yellow blossoms, mostly before winter has past. It is destitute of the fragrance of the above, but then its welcome presence so very early, makes it exceedingly desirable.

The *Shrubby Jessamine* (*J. fruticans*) is not very conspicuous, neither is it a climber, but its long, slender stems are well suited for training against a wall, and then its pretty yellow little flowers show to good advantage.

We desire to call attention to another native vine which is especially valuable for its golden yellow foliage in the autumn, the *Green-briar* (*Smilax rotundifolia*). In a clump of crimson foliaged shrubs it is very appropriate. During summer the leaves are very glossy, and the bright green bark and bluish-black berries are quite ornamental.

Having already given our views on the *Clematis* in the late number of *THE HORTICULTURIST*, it is unnecessary to reiterate them now, but we trust that every lover of flowers will endeavor to find some choice spot where one or more can gladden the eye by their exceeding loveliness.

The Greenhouse.

Greenhouse for July.

Watering.—The weather at this season is usually too hot for enjoyment under a glass roof, and most of the plants being outside, there is little to be done in this department excepting watering temporary occupants; such plants as *Coleus* and *Caladiums* requiring a very liberal supply with an occasional watering with liquid manure when the pots are filled with roots, and a liberal application of the hose or syringe to every part morning and evening of bright days. If this is neglected, such plants as climbers on roofs will get smothered with insects and dust.

Late Camellias will be now best out-of-doors in a shady place. These plants, with others, removed out earlier in the season, will require strict attention to watering, a good application of the hose over the foliage at frequent intervals being of great service in keeping plants clean and free from dust, but we do not recommend an indiscriminate watering to the soil of large plants with the hose. In this case some get more than required and many do not get enough, the surface only being moistened while the ball of roots is often dust dry, which often is the cause of sudden death in such plants as Heaths and Azaleas, and dropping of the buds of Camellias.

Climbers on roof should now be in full beauty. No warm greenhouse should be without a good plant of *Stephanotis floribunda*. This plant is in full beauty during June and July. We have a plant which is planted in a small bed and trained to wires near the glass roof of a warm house; it has hundreds of bunches of its beautiful white, sweet-scented flowers, than which nothing is more lovely either for wedding bouquets or funeral wreaths. We feel much surprised to see this beautiful plant is not more cultivated in this country. All our lady visitors are charmed with it when in full flower, and it is very easily grown, requiring abundance of water when growing, and very little during

the winter. The flower being produced on the young wood it requires liberal pruning during the winter, and a bunch of flowers will show with each pair of leaves.

Passiflora princeps is a capital companion to the *Stephanotis*, and it has the additional charm of flowering all the year round. Its beautiful racemes of scarlet flowers are very useful to cut for hanging around tall vases of cut flowers for rooms and churches; we use them during the winter for Plymouth Church.

Tucsonia Buchananii is another fine climber, but it requires a large house; it being a very rampant grower would soon overgrow everything else in a small house, but the flowers are of the most magnificent scarlet, more of the color of *Poinsettia* bracts than any flower I have ever seen. This plant sends out a single flower from the bare of each leaf, so that it is continually in flower.

Thunbergia Harrisii should be pruned in and thoroughly cleaned to induce a free growth for flowering next winter.

Double White *Primula* if not planted out of pots in a frame, will require shaking out from old soil and repotting into smaller pots in good, free, sweet soil, and be placed in a shady frame to be kept rather close in the day, but with plenty of air during the night. These plants do not like free watering over the foliage; the leaves, and often the heart of the plant will rot off during our hot summer. The plants make but little progress, but as the nights become longer and cooler, they make rapid growth.

Poinsettias will require potting into the pots they are intended to flower in. Tops of young shoots put into small pots and rooted in a close frame, will make nice little plants for decoration of rooms or for front row in greenhouse. If these plants are not placed out-of-doors, give them a good, light position with plenty of ventilation, but we prefer these plants outside during the hot months, if convenient.

***Aucubas*.**—Most of our readers are acquainted with the spotted-leaved variety which is frequently seen as a decorative plant

outside during summer and for rooms about Christmas; it is one of the most common plants seen in the squares and gardens of London, being about the only evergreen which can live in the city smoke. This plant is also quite hardy in England, at least it is only injured in such a winter as '60 and '61, when many of the native trees were killed. It is only of late years that the full beauty of this plant was developed by the introduction of the male variety; by planting this in proximity to the original plants, which were all females, the plants fruited, and were covered with its beautiful coral-colored berries; this was a great improvement to the English shrubberies, but as the plant is not hardy in this country, is no use for permanent decoration outside here, but for winter greenhouse decoration it is a charming plant, and after the berries are set, it can be turned outside for the summer grower. In the form of a standard, three or four feet in height, it is very beautiful and covered with its bright red fruit was much admired by all our visitors in the winter. A few standard round-headed plants are always an improvement to the furnishing of a greenhouse, either in fruits or flowers, and when better known, this plant will be as generally grown in this country as it is in Europe.

Epiphyllum both in baskets and pots should be kept in full sun in the greenhouse to induce a free growth for winter flowering. These are essentially amateur plants, not suffering so readily as many others if neglected for a time for water, and few plants make so much show in the winter with so little trouble.

Othonna crassifolia is a plant which increases in our estimation on better acquaintance. It is an admirable basket plant, and flowers all the year. Some may object to the yellow color of the flowers, but we consider a few yellow flowers indispensable in general decoration, although we would not go the length of advocating the use of *Allamanda Schottii* flowers in hand bouquets, which a disappointed exhibitor once did at a flower show at which we acted as a judge.

Winter Flowering Begonias will require shifting into larger pots as soon as small pots are well filled with roots, and the tall growing varieties should have stakes and a few ties to prevent them falling into each other. The foliage varieties, if large plants are required, should have good soil and an occasional watering with manure water when the pots are well filled with roots. To bring out the color well in the foliage of these varieties, the plants require shade and a moderate close house. These plants grow very well planted partially under the shade of stage and also among ferns, when shade is necessary for the other plants, although we have seen some fair results with foliage begonias planted outside in a shady position; but these plants should not be watered over the foliage, it frequently causes the leaves to rot off and also to decay in spots, which spoils the beauty of the plants.

Dirty Flower Pots should be looked up at this season; many are unoccupied and should be washed on wet days or other spare time, and placed away in the various sizes to be ready for use when required in the autumn. The pot bill is always a very serious item in the expenses of a large garden, for with the best care a number is continually broken, especially when, as often is the case, the pots and pans are thrown in a heap in some corner when empty, so that every time one is required a portion of the heap has to be sorted over to find the size required. We do not advocate stowing away under stages in greenhouses if there is any other place at liberty, the pots being about as ornamental as a collection of old boots and shoes would be in the same place; but if it is necessary to store under stages, first wash them thoroughly and place them away tidy in the various sizes, where they are not specially unsightly.

Shade.—Plants under glass generally will require shade of some kind during the hottest part of the year. When a whole house requires shade it is best to have coarse canvas tacked on rollers to run up and down as required, but when a part only is shaded, we find nothing better than thin lime-wash brushed on the

glass outside; it can be removed at pleasure, and the rain will wash it away by autumn.

Climbers.

IF unprovided with climbers for roof of greenhouse, do not omit to plant a few; a moderate amount of shade is an advantage to the plants grown below, if utility as well as ornament is required. There is no objection to training a few European varieties of grape vine on the roof; but if this is done, there must be provision made for training them outside to be protected during the winter, for the temperature required to grow flowers will continue the vines in growth, so the only crop grown will be leaves and insects, if there should be any of the latter in the house. In old-fashioned places, in England, there were frequently double side lights to fit the front of the houses, and the grape vines were turned down and wintered safely between the two lights; in other cases, the vines were simply turned outside and covered with boards or straw; but this was a very unsatisfactory plan, the vines being out of sight; and when uncovered, in spring, it was often found that rats and mice had taken lodgings in the same place and barked some or all the vines and rendered them useless. To those requiring vines from a distance, winter is the best time to purchase them, for at that season being at rest, they can be packed in a small space and travel without injury, but when in foliage, although grown in pots, the leaves are tender and easily injured.

In a warm greenhouse, that is, a house in which the temperature does not fall below 50 deg., plant *Passiflora Princesse*; this plant flowers all the year, and the rich raceme of scarlet flowers are very useful cut for large vases of flowers; this plant grows best in a mixture of peat and loam, and requires a large quantity of water; if allowed to get very dry, the flower buds drop off without opening.

Thunbergia Harissi is another valuable plant for the above temperature and same treatment. A plant put out last spring now

covers a roof space of about 200 square feet, and it is at the present time completely covered with its beautiful lavender-colored flowers, in some instances as many as thirty flowers in a bunch.

Delphinium Sinensis flore pleno.—

The Double-flowered Chinese Larkspur is specially referred to by a correspondent of the (Irish) *Gardener's Record*, who says:

"A bed of it during the past summer was one of the most beautiful objects imaginable, as if a patch of purer and deeper ether than the far-famed Italian skies can boast, were transferred to earth awhile. It is perfectly unaccountable why this plant is not more extensively grown, as it is perfectly hardy, and its cultivation of the easiest. It is a true herbaceous perennial, and may be readily increased in the spring by division; or cuttings taken off when the shoots are but a few inches high will root freely. It also comes very freely from seed, which should be sown in boxes or pans, and kept in a cold pit or frame during the winter. In procuring seed, be careful that the true variety is obtained, and that it has none of the 'candelabrum' strain in it. The height of the double-flowered *Delphinium* is usually from 9 to 12 inches."

Fuchsia syringæflora is strongly recommended by the *Revue Horticole* as a fine decorative and market plant. It is of vigorous habit, attaining 6 feet or 7 feet in height, with sub-elliptic leaves, from 5 inches to 6 inches in length, and very numerous flowers of a beautiful soft, rosy tint, arranged in a paniculate bunch, which recalls the inflorescence of the Lilac. *F. syringæflora* flowers from October till February. The culture is most easy. To have fine plants, it is recommended to plant them out in prepared soil early in the season; to pinch in freely, so as to obtain well-furnished plants, the last pinching taking place in July or August; and on the approach of frost to take up the plants, pot them, and place them in a greenhouse, where they will flower about the time stated.

Begonias for Baskets.—*Begonias* generally recommend themselves to the cultivator

for several reasons: They are readily propagated by division, while cuttings of the stem or leaves root freely in a slight bottom-heat; they are moreover easily grown, are profuse flowerers, and their flowers and sprays come in very useful for cutting, especially as one or two of the species are perpetual bloomers.

B. Dregei, when well grown, is one of the prettiest of decorative plants. *B. weltoniensis* is still more showy. The scarlet-flowered *B. fuchsoides* and the large rosy-flowered *B. nitida* flower all the year round, if trained up the wall of a warm, sunny conservatory or greenhouse.

A *Begonia* in a hanging basket looks like a fish in water, *i. e.*, quite at home. If the foliage is colored or variegated, its tints look richer when seen between the eye and the light, while some of the dwarf and scarlet species make the most elegant of basket plants.

As to the kinds most suitable for basket work, nearly all may be used, except the very tallest growers; and the best way is to begin with small plants, rooted cuttings in fact, which can then be trained as required. *B. fuchsoides*, *B. hybrida multiflora*, *B. insignis*, *B. Daviesii*, *B. foliosa*, *B. Dregei*, *B. Saundersii*, *B. Ledeni*, and numerous sub-varieties, are all good, while all the ornamental-leaved varieties look better in baskets than elsewhere.—*Garden*.

Salvia gesneræflora is mentioned by the *Florist* as one of the finest of decorative plants for the conservatory during the winter and spring months. It was raised at Lyon, from Columbian seeds, and large bushes of it, more than three feet high, were grown in that establishment, and were a blaze of scarlet from November till April. As a species it is allied to *S. fulgens (cardinalis)*, but *S. gesneræflora* flowers through the autumn and winter, and holds its flowers well, while *S. fulgens* is a summer species, and the blossoms soon fall. It is one of the very best of the *Salvias* for decorative purposes during the winter period.

Cissus Discolor.—When this old and well-known climber is well grown, there is none that surpasses it in beauty. The soil should be a combination of sandy peat and

strong, fibrous loam, with well decomposed hot-bed and old cow-dung, and silver sand. Being a very rapid grower, it requires a rich soil. It also requires shading, otherwise the rich coloring will fade quickly. It loves plenty of atmospheric moisture. Care must also be taken not to syringe the foliage; wherever water falls, it spoils the metallic luster. I have grown it in several ways—on a flat trellis and on a wire balloon; either way it is very beautiful. I have also grown it trained up with *Thunbergia Harrisii*; the lovely blue flowers of the latter, intermixed with the *Cissus discolor*, had a charming effect.—*Journal of Horticulture*.

The Coming Rose.—Of the *Baron Von Moltke Rose*, English gardeners of good authority say, that it is vigorous, a free bloomer, foliage ample, shape excellent, the most scarlet of any rose raised. And it has one charm, wanting in so many new roses—it is deliciously fragrant.

New Bedding Plants.—"I am inclined to think very highly of *Lobelia Mazarine Blue*. In a mass, and at a distance, it has a more true-blue effect (and what commendation can be higher than this) than any other summer bedding plant I am acquainted with.

Myosotis Empress Elizabeth will, I think, prove an acquisition. It remained in bloom with me last year the whole season.

Tropæolum Cooperi still maintains the high character stamped upon it by Mr. D. Thompson, and resists frost better than most kinds.

Celosia Huttoni bedded beautifully, and was very distinct in shape and growth.—*Journal of Horticulture*.

A high-priced Plant.—At an auction sale of plants in Southgate, England, a fine plant of the *Cocos Weddelliana* (8 feet by 7), sold for \$145, and highest of the high, "*Anthurium Scherzerianum*," one of the original plants, and the finest specimen with the highest colored flowers in existence, for \$330.

Best Roses under Glass.—S. Reynolds Hole says, "My best are the *Maréchal*, *Marquise de Castellane*, *La France*, *Mlle. Eugénie Verdier*, *François Michelin*, *Paul Neron*.

The Pleasure Ground.

Evergreens, Novelties and Dwarfs.

Report of T. C. Maxcell, of Geneva, to Western New York Horticultural Society.

PROBABLY never before was there a time when so many intelligent men were so deeply interested in the cultivation and development of Ornamental Trees and Plants—when this interest was so wide spread—when so many men were looking for “Sports of Nature,” and striving by the best modes of culture, to produce such novelties as will interest the great army of Nurserymen and the immensely greater number of Amateurs, and it is the opinion of the writer that all who have, or will give this subject unprejudiced thought, will concede that these efforts are not without reasonable and encouraging results—the horticultural world moves.

It is true that some of these new things at first appear to some as deformities, unsightly and unworthy of a place in good collections, and so are hastily condemned, yet when we become acquainted with their peculiarities and see them used by men of skill and taste, we can but see that they will add greatly to the interest and beauty of the picture we make about our dwellings and in our parks and cemeteries.

On Mt. Hounes, Fishkill-on-the-Hudson, is found a sport from our well known Hemlock. The species we all know is remarkably graceful and beautiful, lofty and grand, but this sport grows down as persistently as the Kilmarnock Willow—a real deformity, and yet on Mr. Sargent’s lawn it is one of the most interesting and ornamental plants in his entire collection—“a thing of beauty,” with which scarcely another tree or plant on these most beautiful grounds or in all the land can compare.

In England, a nurseryman is sending out a Juniper, “hardy as an Oak,” of a beautiful golden yellow through and through. He says “we may a few years hence see our lawns and pleasure grounds adorned with

pyramids of gold,” and we are told that in France is found a Birch with leaves as purple as the Purple Beech, and we hear in one direction of a *Dwarf Weeping Spruce*, and in another of an Upright Larch, and in another of a Variegated Spruce, and a Golden Arbor Vite, and of various other sports, some of which we can but hope will prove valuable acquisitions. The numerous variations in form of growth, shape and color of leaf, are adding largely to our list of choice valuable trees and plants, for ornament.

We are getting variegations of leaf, yellow and white, in nearly all our ornamental trees and shrubs, both evergreen and deciduous, and a few cases of tri-colors. Some of these sports are very beautiful, and yet they appear to many persons who only give them a passing glance, as sickly specimens, only fit to be thrown away, and in this careless way, no doubt, many valuable things have been lost, but the time has come when anything remarkable in shape of tree, shape or color of foliage, should have a careful trial, and if found worthy, propagated and disseminated.

The word “evergreen” in many minds is so associated with the green of our old Balsam Fir and Norway Spruce, that they will scarcely accept as an evergreen any variation from the color of these well known trees, but if they will examine the best catalogues of this country as well as Europe, or what is worth a hundred times more, examine a good collection of trees and plants, they will be interested to notice the many beautiful hues of green evergreens—the white evergreens, some spotted with white foliage all through the plant, and others white only on the ends of the branches—the blue or glaucous evergreens, some of which are exceedingly beautiful—the yellow evergreens, some yellow all through the tree, and others only on the ends of the branchlets of the current year’s growth, and in some varieties this yellow and white foliage is sound and hardy—the white will probably prove more liable to burn in the summer than the yellow. Perhaps it will not be out of place right here to say, that I think the best way to bring out the greatest beauty in

these variegated evergreens is to give them a good place where they will make a reasonable growth every year, and then *clip* them in regularly, so as to get a full supply of new branchlets all over the plant, just where we want them.

In this country where we see so many small sized yards and lawns—so many containing less than an acre of ground, I think our best dwarf evergreens are worthy of a thousand times more attention than they have heretofore received. It seems but a very few days since I planted near my front door a beautiful Austrian Pine—it was very beautiful, and though some distance from the street, many times we have seen people stop and look at it, and come into the yard and walk around it, but now it is so large it obstructs the view, detracts from the appearance of my house, looks out of place and must be cut down. If I had planted a handsome Dwarf instead, and placed the Pine some distance from the house, I might have saved the tree, and added largely to the beauty of my place.

We do not want our houses overgrown with trees—we must have the sunshine about them. Neither do we want large trees only standing about us as so many stiff sentinels. The beauty of many a nice little home is spoiled by large trees. It is the opinion of the writer that we should plant our larger trees some distance from the house, if possible—on small places near the outskirts of the lot, and then how beautiful and effective the dwarfs inside, and then the open clean lawn, in the whole plan using care to produce variety without regularity. For groups near walks and drives and near the edge of the lawn, nothing can be more interesting or effective than these fancy and dwarf evergreens. It is an encouraging fact that, in different parts of our country may be found men of wealth and taste, who are collecting on their own private grounds all the varieties of evergreens that can be found, and so well are they pleased with their efforts and specimens, that others are following the example.

The list of fancy and dwarf evergreens is a very interesting one, and contains a good variety of form and color, and gives the planter a wide range for selection in forming his combinations and contrasts.

I will name a few of the choice hardy sorts, beginning with the old neglected, but best of all the Spruces, the

Abies alba—The White Spruce makes a medium size tree, is moderate in its annual growth, and has the most beautiful silvery grey foliage and a compact conical form. It is a tree that will inspire new love and admiration every year. The Black Spruce, sometimes sold for the White, is unworthy of cultivation as an ornamental tree.

Abies alba glauca—This variety of our White Spruce has very marked silvery glaucous foliage—makes a small tree and is exceedingly beautiful—a perfect gem.

Abies excelsa conica—A very handsome dwarf—erect, compact and regular in form—a very neat, cheerful little Spruce.

Abies excelsa pyramidalis—As its name indicates, this is a beautiful dwarf pyramid.

Abies excelsa parviformis—This Spruce is quite dwarf in its habit and has its branches more horizontal than conica—is exceedingly slow in growth and is one of the most interesting of its class.

Abies excelsa pumila—A very dwarf variety, seldom growing above two feet high, with dark foliage and with distinct bushes and close habit.

Abies excelsa pigmea—This is a very small dwarf, only growing one foot high—quite curious.

Abies excelsa pendula—The branches of this variety are as pendant as those of the Kilmarnock Willow—with a little care in training it, makes an interesting, elegant tree.

Abies canadensis nana—This is a very dwarf variety of our common Hemlock, and is compact and beautiful.

Picea pichla—This Siberian Silver Fir is a medium sized tree, thick with rich dark foliage, which it does not lose like our Balsam Fir, and is “hardy as an Oak.” One of the best.

Picea Hudsonica—The Hudson Bay Silver Fir is a very dwarf and interesting variety, growing only about three feet high—one of the best dwarfs.

Picea pectinata pendula—A weeping variety of the European Silver Fir—with a little care in training, it is very ornamental.

Pinus cembra—This Pine is of slow growth; makes a handsome conical small tree; erect and regularly branched, and has three ribbed leaves, green and white, giving it a beautiful plume-like appearance; it is worthy of a place in the best collections.

Pinus Mugho—A small shrub, with numerous branches and short leaves, forming a dense mass of wood and foliage and perfectly hardy. These two Pines are not new, of course, but I think worthy of more attention.

Juniperus Sinensis—The Chinese Juniper is but little known in this country, many nurserymen even being unacquainted with it; it is perfectly hardy. If it stands in a rich place and is inclined to grow too fast and loose, it should be pinched, when it will make a compact, conical shrub, bright and beautiful—one of the most ornamental in attraction.

Juniperus Sinensis variegata—This is like the preceding, except its beautiful green is interspersed with branchlets of white.

Juniperus Japonica aurea—This is a close-growing, fine-leaved variety, with the top of the plant beautifully golden; very attractive in the summer, but browns somewhat with the frosts of autumn and winter.

Juniperus Sabina variegata—This variety of the Savin Juniper has foliage spotted with white and yellow, and is distinct and hardy.

Juniperus Virginiana glauca—The light glaucous color of this tree is very pleasing and ornamental. If you wish for a dense dwarf specimen, clip in the tops of the branches.

Juniperus Virginiana variegata—This is another variety of the Red Cedar, with the foliage distinctly marked with yellow—perfectly hardy.

Juniperus Virginiana pendula—The Weeping Red Cedar has graceful, drooping, slender branchlets, and is a desirable addition to our Weeping Evergreens.

In the long list of Arbor Vitæ, we have some few very handsome dwarfs. They brown some in the winter, it is true, but is it not pleasant to see them *brighten up* in the spring? You sometimes get on a long, sad face, but before your true friends condemn you, cheerfulness comes again.

Thuja dumosa—A real Dwarf Arbor Vitæ, growing only about three feet high, with short flat branchlets, of a peculiarly beautiful green in the summer; browns in winter.

Thuja cristata—A dwarf, compact, curious novelty—a really interesting addition to this class of Dwarf Arbor Vitæ.

Thuja nana (Hooper's Dwarf.)—This beautiful dwarf originated with the distinguished nurseryman whose name it bears. It is very compact and bright—one of the best.

Thuja Vervaeckiana—A very pretty and distinct variety, with slender branches and a beautiful golden color.

Thuja pendula—The Weeping Arbor Vitæ, like all the Weeping Evergreens, needs a little care and skill in its management, when it makes a very satisfactory appearance.

Thuja pyramidalis—This variety is remarkably upright and compact, forming a slender pillar of green; it is quite desirable and attractive.

Taxus adpressa stricta—This is another erect, compact evergreen; has dark, glossy, green leaves, and is without doubt, one of the most hardy of its species.

Taxus Canadensis variegata—This is a variety of our American Yew, with foliage handsomely striped with yellow. With a little annual clipping, it will form a very compact bush, and present a very cheerful appearance.

Taxus Washingtonii—Of this plant, Messrs. Hoopes Brothers & Thomas say, "A rare novelty, of quite vigorous growth, very beautifully variegated, with deep golden yellow spots and stripes." I am very much pleased with the small plants we received about a year ago.

Some of the *Biotas* and *Retinosporas*, are wonderfully beautiful, but the fear that they

are not sufficiently hardy, deters me from any definite description.

Those who are interested in Evergreens, and can afford it, should give the best of them a trial, protecting with evergreen boughs during winter. Some of the sorts may prove valuable.

A New Evergreen.—It is always a pleasure to record an addition to our list of really hardy new plants; and especially so, when they are very beautiful and desirable in all respects. We now urge the claims of a new evergreen from Japan, which as yet, has no common name, but which is called by botanists, *Retinispora obtusa*. For the past five years—two of which have been more trying to our hardy plants than any within the recollection of our oldest horticulturists—this lovely tree has succeeded equally as well as the Norway spruce. It grows rapidly and forms a very graceful tree, with drooping, silvery-green branchlets; and appears equally indifferent to the extremes of heat and cold. So far as we have been able to judge, it is not affected by any particular soil or situation, but succeeds well wherever placed. So many of the newer evergreens have been injured of late years that our horticulturists have been about ready to give up the whole family in despair, as too fickle for this climate; but we think a fair test with this charming plant will assure them that one, at least, will prove desirable.—*N. Y. Tribune*.

Lawn Trees.—The *Country Gentleman* (Eng.) in discussing lawn trees, says that in small places of two acres or less, growers should avoid all trees that litter leaves, nuts, flowers and other cast-off garments which become scattered over lawns and flower beds to the disgust of the owner of a well-kept garden. Of course, it depends somewhat upon the kinds of trees adjacent to the garden, as some, like the Chestnut, are constantly contributing something in the way of litter during the entire summer. First, the long catkins, like huge yellow worms, are scattered over walks, out-buildings, and lawns, followed by more or less early ripening leaves in July and

August; then September brings down the prickly husks, which tumble about to the discomfort of feet incased in thin shoes, or the "sit-down" of the lounge in the shade.

A deciduous tree that will drop its leaves all at one time, is far preferable to one that keeps up a continual scattering through the season. There are several species of Oaks which belong to the latter class, and for this reason are well worthy the attention of all villa gardeners.

A *Manumeth Rhododendron*.—This spring there flowered in the grounds at Court-maccherry, near Bandon in Ireland, a fine plant of *Rhododendron cinnamomeum*, bearing 130 trusses of flowers, and each truss containing on an average 18 flowers. Total, 2,340 flowers.

The Purple-Leaf Birch.—Ed. Andrieu writes to *L'Illustration Horticole* that while at the Horticultural Exhibition at Orleans, he saw some forty plants of a beautiful variety of the common white birch of Europe, the leaves of which were completely purple or purple-black, like the purple-leaf beech. Noticing the peculiarity in the color of the foliage, he took cions from it and grafted them upon the young stocks of the common birch, so that now he has some sixty plants of one and two years of age. He thinks this new leaf-color in the birch will prove to be a great acquisition, and that it succeeds in the poorest soils, at the same time preserving all the strength and rural beauty of the original type.

Lilac Dr. Lindley.—This is by far the best addition which has been made of late years to our hardy forcing shrubs. Here we have a sort that will, in a short time, supersede the French production in the way of White Lilac, since it sets its buds as small plants and opens freely, while the French plants are large before fit for forcing. We have some plants 18 inches high, with a dozen clusters of bloom, and if forced in a shady house, it comes a good white. When it is more plentiful and the plant gets up to, say 3 feet or so in height, there will be no more showy plant for a greenhouse."—*The Florist*.

The Flower Garden.

Flower Garden for July.

IF any plants are not very strong and well established, there will probably be some blanks to fill up, which should be done at once from a few plants reserved for that purpose; and bedding plants generally should have good attention, to get the beds covered as soon as possible. This is best insured by stirring the soil every few days with the hoe; this not only prevents the growth of weeds, but prevents the soil from drying out so fast. Mulching with short grass and half decayed manure is also used for that purpose, and if the weather is very dry, one good soaking of water does more good than a daily watering without mulching.

Large Humens and Dracenas require a thorough watering at least three times each week, for if allowed to get very dry the leaves turn yellow and fall off. Keep grass lawns frequently mowed, and leave the short grass scattered on the turf; it prevents the grass being burnt up and killed by the hot sun. Where there is command of water, give the turf frequent good waterings; it is nearly impossible to keep a respectable lawn without doing so; in fact, on few soils can a passable turf be kept without continual watering, for it is only in the moist, dull climate of England that really first-rate carpet-like turf can be seen, and we must be content with as near approach to it as care and attention will give, and console ourselves with the thought that although we cannot generally expect to rival the English turf, the autumn tints of the foliage is never seen in the same perfection on the other side of the Atlantic.

Fresh planted shrubs and trees will probably be better for a good watering occasionally the first season, especially Rhododendrons, which often become so dry before getting hold of the fresh soil that they cannot make fresh roots, and die outright, while the surrounding soil is moderately moist.

Use the hoe frequently among shrubs and

herbaceous borders, for usually at this season the weeds progress faster than the plants; keep edgings and hedges cut into shape; this is best done, when possible, just previous to a shower; there is then less risk of its looking brown and burnt with the sun.

We find the variegated Japan honeysuckle one of the most useful plants for a dwarf edging to beds and walks, and its beautiful variegated foliage is very pleasing; it is perfectly hardy, but, of course, is not evergreen, although it commences to grow early in the spring. We plant small plants of this species six inches from each other in the row, and peg down a few shoots at first; it will root into the ground at every joint and take care of itself, except during the summer it requires frequent cutting in to prevent it rambling too far, for it is naturally a climber and grows very fast, but is easily kept into an edging of a few inches wide and high. During its free growing season we usually thin it once in two weeks, and before it commences to grow in the spring cut it down quite close to the ground, by doing which it is more easy to keep within bounds during the summer.

Echeveria secunda, and *secunda glauca* make a capital dwarf edging for a walk during summer, and if plants of one size are used, it remains quite uniform without any attention during the summer, and looks quite lively when in flower.

Geraniums.

BY JOHN QUILL.

THOSE who have a collection of gold, silver and bronze leaved geraniums, and at planting mix them indiscriminately with other bedding plants in the ridiculous form of stripes, centers, edges, etc., know not the excellent appearance that a bed of these would present when massed together in the flower garden. A bed containing several varieties of the newest and most approved Zonales and Pelargoniums on the grounds that I have charge of, elicits admiration from those that are well posted on horticulture; various shades of foliage are represented, such as gold, silver, bronze, pure green, and

variegated, with a host of the striped and deeply zoned kinds.

Then the arrangement of planting is simple and very attractive; the bed is edged with the gold and silver kinds, they being kept dwarf for the purpose, then rows of various other kinds run around the circle from side to center. The aspect of this bed in bloom is enchanting; numerous strong and vigorous peduncles emerge from between the rich foliage bearing trusses of blossoms of all the desirable colors. The masses of fiery red, orange, scarlet, carmine, crimson, yellow, and pure white blossoms reflecting their beautiful colors on the rich varied foliage, is a sight to dazzle the eyes of the beholders.

The geranium suffers considerably when removed from the open ground to pots in the fall; the roots not being bushy, they sever from the soil very easily; the consequence is, that the foliage partly or nearly all withers, and it will take them the biggest part of winter to recover their foliage, whereas, if transferred successfully from the beds to winter quarters, their growth would not receive the least noticeable check, and we may look to that department for abundance of gorgeous blossoms during the winter months. My horticultural friends are astonished at my successes in transferring geraniums from the open ground into pots, but they were ignorant of the mode I practiced to insure success. The method is simply this: holes being made the necessary depth to receive the plants, place on the bottom of each hole a piece of tough sod fresh from the pasture; on removing from the pots scrape from the base of the ball a portion of the soil and place the lower roots naked on the sod, press the soil tightly around, the roots will penetrate the sod and the plants will flourish during summer, and in fall there will be no difficulty experienced in removing them to the house or greenhouse. Plants of this kind intended for winter blooming should be dwarfed or cut back a month or six weeks before the time of their removal; this will enable the plants to force young branches that will, under judicious treatment, bloom the coming December.

Prominent among the many colors and varieties in my geranium bed is the new double white species, "Aline Sisley." Those who have seen it pronounce it the best variety added to the *Pelargonium* family for years. It was received by me last Feb. among a package of others from Peter Henderson's greenhouses, Jersey City Heights. I have watched its progress diligently and find it possesses peculiarities similar to none of the older kinds; a gardener friend suggested his preference to it in foliage to any of the other varieties in bloom. In pot it presents the appearance of a pyramidal growing very dwarf and compact, a very picture of neatness and simplicity not to be excelled by anything of the kind we have yet seen. Branching directly above the surface it makes more progress in circumference than in height; the lower leaves have a tendency to droop, nearly resting on the rim of the pot, almost concealing the entire surface. From the second lower layer the leaves bend gently upward and close in a mass at the top. The leaves of this variety are thick, tough, and slightly serrated at the edges, veins are numerous on the under side of the leaf, strong and thick, only branching when they near the edges. More than one-half the leaves' surface is deeply marked with a broad, dark brown colored zone, leaving a center and margin of the purest green. The flower stem makes its way out boldly from among the mass of compact foliage, bearing a large tuft of buds perfectly double and of snowy whiteness. This species is a valuable addition to the *Pelargonium* family; its utility for outdoor bedding or indoor decoration could not be over estimated; it is yet destined to occupy a prominent place in every floral collection. I will, ere the summer is over, take another look at my geranium bed and note the points of interest for THE HORTICULTURIST.

Cincinnati.

THE "Aaron cup," a California flower, measures two feet eight inches from the base to the tip.

Laying out the Flower Garden.

THE first thing to be done is to make up one's mind definitely what effect can be best produced with the materials at command. Every large plant—say over three feet in height and diameter—is an object that should have some relation to its surroundings. It may be a center-piece. It may be balanced by another of about equal size. It may nicely fill and grace a corner. But there should be some definite reason for its chosen position; it should look better there than anywhere else. The second thing to be considered is that great changes in the effect produced by plants take place as the season advances. A Crown Imperial—and it should here be said that there are some fine recent varieties of this old-fashioned flower—makes a good show in spring, but wilts in the early summer. A Bleeding-Heart, covering much space with singular blossoms—there are white now as well as pink on the same bush—dies down before the first breath of autumn. The Scarlet Salvia is modest enough in the matter of room during summer, but when its glories spread in the fall it needs abundant space, and no other flowers may stand in the way of its expansion. To make a continuous show, either plants must be selected that will come up successively, or they must be skillfully transplanted to the positions where they will appear best as the season advances. With smaller plants the latter is by far the best system.

The question of edging is always open. Box is regarded as too stiff and antiquated, but nothing else is half so trim. Grass is troublesome as an edging unless a deep trench an inch wide is spaded down on its inside margin, to keep it from spreading into the flower-bed. If one can afford them, of course the variegated plants are admirable. A bed of variegated Geraniums, with an edging of the Alternanthera or dwarf Coleus, is beautiful, but rather expensive. The Oxalis, a bulb from which a dark-green foliage, and rose, lilac, yellow, and white flowers spring, is very successfully used for edging in Central

Park. But excellent edgings can be had at far less cost. The common wild Violet, which can be obtained in the woods, answers admirably. Mixed Tulips, which can be bought for \$3 or \$4 per 100 (depending upon size), as well as their offshoots, which are about half price, and do not flower the first year, make a first-rate spring border. Between the Tulips the seeds of the Dwarf Single Marigold (*Tagetes Pumila*) may be planted, or Sweet Alyssum or Candytuft. These will grow up as the season advances and take the place of the Tulips, and can be thinned out or transplanted a little, so as to make the edging regular. These will show themselves next year, and thus a permanent edging is established.—*N. Y. Tribune.*

Training Roses.

A CORRESPONDENT of the *Southern Cultivator* recommends the following for training over arbors, etc.: Upon the arbor in the center is twined the splendid Cloth of Gold and the beautiful crimson Queen of Ayrshires, the flowers large and full, and the contrast of colors is very fine. It is well to train these running roses to arbors that they may be kept within bounds, for they grow so rapidly as to require the free use of the scissors, and need close tying to the sides and top. The Cloth of Gold can be trained to represent a miniature tree, by cutting back the branches and keeping one main stem. This stem in a few years becomes quite large and strong, and can support a good sized head. As the flowers of Roses are always produced on the new spring growth, the cutting back does not interfere with a fine display of blooms. There are several Roses here trained in this manner and produce a charming effect, being now covered with a profusion of elegant flowers. Here is the Luxemburg, which is about eight feet high, with a large strong stem, and a fine symmetrical head. The splendid flowers upon it shows that this manner of growth suits it remarkably well. The *Devoniensis* to its right, is quite large enough to accommodate a comfortable bench underneath its shade,

and its large creamy flowers hang in graceful profusion around.

The hybrid perpetual Roses are loaded with elegant blooms. They can be cultivated within such limited space, that a good many can be accommodated in any ordinary sized bed. It is best to train them up to stakes as their stems are slender and are apt to fall to the ground when loaded with heavy clusters of flowers. Every one has favorites; among mine is the General Jacqueminot with its brilliant crimson flowers, so large and bright that the eye is dazzled while looking at it; also, the Caroline de Sansal with such clear flesh-colored petals, so pure and delicate in its setting of dark rich leaves; the Jules Margottin is exceedingly rich, its carmine purple flowers are so double, it seems almost impossible that so many petals could be collected in one flower.

Bedding Plants.—Peg down a few of the leading shoots of such plants as verbenas and petunias, and stake and tie up dahlias for exhibition flowers; but when only required for decorative purposes, the plants are better pegged down. They look better than when staked, and it is also an advantage when stakes are scarce. Any other large plants requiring stakes should be noticed after rough winds, for if loosened in the ground, they do not grow satisfactorily. Keep the soil constantly stirred among young plants, with the hoe; it not only prevents weeds from growing, but warms the soil, and prevents its drying out in hot, dry weather. It is a mistake to attempt watering every plant when established in the ground; they will usually do much better without, and if watering is commenced, it must be continued, or the plants suffer much more than if not watered at all. Exceptions must be made to such plants as large ferns, palms, humeas and other large plants, in or out of pots, used for temporary decoration of the pleasure ground.

New Tea Rose, Binqi.—Prominent among the many acquisitions added to the rose family during '73, is the new white tea rose Binqi. Decidedly this is a novelty

possessing those rare charms that makes the rose a favorite gem throughout the universe.

The modest and sublime appearance of this genus among the other new things in my collection, induced me to note it for THE HORTICULTURIST in my own humble way. Having received this rose, while yet very small, from Peter Henderson's rose houses, I nurtured it with care so that I could the more readily judge of its merits. The plant when received, had four inches of erect stem with several small leaflets. A bud of a corresponding size had already formed, and was making rapid strides to its full development. The dutiful little plant bloomed two weeks in a manner that a rose grower would call very profuse, and would have continued longer had I not stayed its smiles with a view to grow it as a specimen plant. I now plucked the old peduncles together with a new bud that was forming, suffered a portion of its leaves to wither, and repotted into a larger size, adding a little fine sand and a liberal portion of well rotted chicken mould; this done, I plunged it in the ground in a warm exposure out doors, and it there remained to await results.

Two months work marvelous changes—rose Binqi is no more recognized as the small, tender, single-stemmed thing that it used to be. My expectations are doubly realized, the plant has grown to an astonishing proportion, and blooming with an inexhaustible vigor that I have not perceived in anything of the kind. Branched low, it forms a symmetrical bush without the aid of artificial pinching or pruning. Leaves dark green, thin, oblong, and very smooth, slightly orange color round the sharply serrated margin. Buds beautifully formed, large and compact, petals pure white, large and very fragrant.—A WESTERN HORTICULTURIST.

PETER HENDERSON says that experiments with pure water, sawdust, charcoal, anthracite, brick-dust, and sands of all colors and textures, showed that cuttings placed in each, in the same temperature *rooted almost simultaneously and equally well*. A sharp snap this at pretentious scientists.

Gardening.

Market Gardening.

BY J. M. SMITH, GREEN BAY, WIS.

No. 3.

LET us now turn for a few moments to the expenses of running a good sized garden. Here you have the advantage over your eastern friend. While a few, say \$3,000 to \$5,000 would be a great help to you, still it is possible, as I know by experience, to commence with very little ready money; while at the east, several thousand dollars is an absolute necessity. And the first thing I wish to say upon this point is this. If you have any idea of cheap tillage, and half culture, discard them at once and forever. If your garden contains six acres, better by far to let one-half of it grow up with weeds, and thoroughly cultivate the other half than to attempt to cultivate the whole, and only half do it. I shall not deny that a wretched half system, or no system of cultivation, will sometimes result in showing a large crop. A kind Providence has arranged the natural laws of growth as well as the seasons, in such a manner that such will sometimes be the case; but such cases are the exceptions, not the rule. Whereas you may, and you ought so to cultivate, that large crops will be the rule, not the exception; but to produce this result, you must spend more labor and more money upon an acre of land than is generally given to it. I know very well that insisting upon this plan, I am talking against the tide, and against the almost universal custom of our whole west, and I fear that I shall talk to little purpose upon this point; but, gentlemen, I am in earnest, and I know that I am right. Here I must refer to my own system again. I do not do so for the sake of boasting, but because it has proved a success, not as successful by far as I expect, and intend to make it hereafter, but still a grand success as compared with the system, or rather the entire want of system of the most of those about me.

I have found, and with me the rule has

been invariable, not a single exception to it, that the more I have spent per acre in cultivation (and in cultivation I include manuring), the greater have been, not only my gross receipts, but the greater has been the net profit per acre. With each succeeding year, I have spent more in cultivating than in any previous one. The invariable result has been, not only a return of the investment, but a larger net profit from the garden than ever before. Last season I cultivated about fourteen acres. In the spring I commenced a more thorough and expensive cultivation than ever before. Soon a most terrible drought came on, and lasted till I began to get frightened, and even went so far as to consider the propriety of discharging some of the hands, but concluded to keep on and keep the garden in the best condition possible, so that it should get the full benefit of rain when it did come. I followed out this plan, and when light showers began to come, there was no crust on the ground to be dissolved before the rain could penetrate into the ground, there were but very few weeds to divide the benefits of the rain with the crops.

In a few days, the change seemed almost miraculous. The result of it all was, that although it was one of the dryest seasons ever known in our part of the state, and that in cultivating and marketing fourteen acres I spent \$3,986, or \$284 per acre, yet not only is the balance upon the right side of the ledger, but it is a nicer one than I have ever had before, and I see now that my cultivation during the drought was what saved me; and if I had carried it still farther in the right direction, I should have been hundreds of dollars better off than I was at the close of the season. The cost of manure must vary the cost of your cultivation materially. With our present imperfect knowledge of manures, stable manures will be your standard, with the use of superphosphates, plaster, lime, ashes, and other manures, as your experience and good sense will dictate.

If you can lay down manure in your garden for \$4 per cord, you will need at least \$50 per acre for manure, and \$150 for other expenses, making \$200 per acre; and after you have

learned how to spend money to the best advantage, I believe that a larger profit may be made by laying out \$300 per acre than with less. But I presume by this time, you are asking if the expenses are so heavy, what are the profits? For the first year or two, they will be nothing. And if you make it pay expenses, you will do better than I have done with any land that I own. After the second year, if your land does not pay all of its expenses, and taxes, and ten per cent. on \$1,000 per acre, there is something wrong somewhere. I have some acres of land that did not pay expenses for two years, but for a number of years past have not failed to pay ten per cent. on at least \$2,000 per acre. I expect my whole garden to do more than that in a short time.

At present I am aiming to make my land yield 1,000 bushels of onions per acre, and then a crop of carrots or turnips, or 500 bushels of early potatoes, and then some other late crop; or if in strawberries, 12,800 quarts or 400 bushels per acre, and other crops in about the same proportion. I know that these figures seem large, but I am steadily gaining and nearing my mark; and, gentlemen, if I live, I shall reach it. Do you ask, what then? Well, I do not know where the next mark will be, but certainly a still farther advance. Our best cultivators have as yet but a very slight idea of the capabilities of an acre of land. Do not think me either wild or enthusiastic upon this point. Such is not the case. For many years I have been satisfied of the truth of the above statement, and every year's experience and experiments bring with them the arguments that convince me beyond all doubt, of the truth of the statement.

You are so situated that you must of necessity raise large crops, or your whole business fails; hence you ought every season to make a series of experiments, all aiming at some definite point which, if it succeeds, will result in a practical improvement in agriculture. You can do this more easily than most farmers could, and can follow it up for a series of years better than they can; for you must ever bear in mind that a single experiment, however successful it may be, is, as a general

thing, worth but little. Let me illustrate this by an experiment of my own. Last season I wished to try a number of different kinds of potatoes, with a view of testing their earliness, yield, quality, etc., with certain kinds of manure. Well, what did I prove? Why, simply this: That a certain kind of potato, planted at a certain time in the season, upon a certain kind of soil, manured thus and so, cultivated in such a manner with just such a season as the last one was, produced potatoes of a splendid quality and at the rate of nearly 500 bushels per acre. Now, what is this experiment worth? Practically, very little, because very few, and possibly not a single person present, could comply with all the conditions which resulted in that yield. But suppose that I follow up these experiments with that same variety for five years, try them upon different soils, with different manures, at different times of planting, etc., and at the end of five years I find that they have been of uniform good quality, and that the yield has averaged say 400 bushels per acre, I have shown that upon a good soil, and with good cultivation, they are a profitable potato; but suppose the yield only averages 100 bushels per acre, I have shown that either they are not a reliable potato, or that, if they are, I don't know how to raise them. Many of your experiments will prove failures to a greater or less extent, and some of them very annoying ones; but you must bear in mind, that when you have made one that is a success, you have not only benefited yourself, but the whole community in which you live. And it surely will be a pleasure to you to know that you have been the means of adding to the wealth as well as the comfort of those about you. If it is not, I hope that you will never enter my profession.

Home Gardening.

BY WESTERN SUBURBAN GARDENER.

THIS not always the writer's fortune to happen on a successful house garden either in city or in country, but I have just now seen a fine specimen and a model of what window gardens should be. Curiosity deepened into

keen interest, as I viewed the well kept plants before me. The more I examined the contents of the garden, the more my interest was heightened, and imagine myself at the moment traveling through some botanical garden where science of the highest pretensions had aided nature. *Passiflora* on the one side, and *Cissus discolor* on the other, had formed a perfect mass of vines and foliage, the whole breadth and length of the windows. Both vines embraced each other at the top, thus forming a beautiful arch. The latter-named plant, you will agree, requires the highest greenhouse temperature in winter, and confess that I was a little surprised to find it presenting such a vigorous and healthy appearance in this crowded house garden. But the secret of its success was thoroughly understood by the young maiden who was the family florist. *Bouvardia* and *Begonia*, although unsuitable under other circumstances for house culture, flourished in this garden, and were now gay and healthy in foliage and blossom. The maiden florist introduced sciences of her own into the art of floriculture. She knew her plants minutely, and her successes out doors in summer and in doors in winter, brought forth series criticisms from her less fortunate neighbors. *Carnations*, *Stevias*, *Ageratums* and *Eupatoriums* were in bloom, and showed indications of continuing their smiles for a long time, as one bud after another formed, swelled and expanded into full bloom. The writer had now reason to congratulate the fair daughter of Columbia on the health and beauty of her plants, and wished at the moment that some powerful revolution had transformed himself into a plant to be placed in her gentle keeping. Thanks, replied the maiden; thanks to our horticultural writers, their teaching has taught the least inexperienced of us country girls to make our homes cheerful during the winter. I use due caution in selecting none but those that I presume are adapted for window gardening. This *Poinsetta pulcherima* and *Eupatorium* were only received by me a few days ago, and see how they have braved a midwinter journey; they have not lost a leaf, nor weakened a bud.

Mulching.—P. T. Quinn prefers turnip tops to any other material for mulching strawberries. Many years since I abandoned the use of tan-bark for mulching strawberries, because in the first place it was too expensive, and secondly, I was annoyed by the after-growth of sorrel, which gave us considerable trouble to eradicate. Again, while cut straw will answer a good purpose as a summer mulch, for winter protection of strawberry plants it certainly does not come up to the standard. When the ground is not covered with snow, with an occasional strong wind, cut straw is blown about every which way, leaving the plants uncovered. In my experience long straw or fine soft hay are infinitely superior for winter mulching to either tan-bark or cut straw. Turnip tops are sure to remain in place through all kinds of weather, until removed by hand towards spring, and to those who have such material the experiment is worth a trial.

Onion Maggot.—An onion-grower, of considerable experience, says that he destroys the onion maggot in the following manner: As soon as the maggots are discovered at work, remove the soil from the sides of the bulbs, by making a shallow trench with the corner of a hoe; then pour into this trench soap-suds made by dissolving two or three gallons of soft soap in a barrel of water, previously adding one pound of copperas in the soap.—*Rural New Yorker*.

Transplanting.—M. B. Bateham says, in *The Ohio Farmer*, that the effect of transplanting on the growth and habits of some kinds of vegetation is remarkable, and needs to be better understood by horticulturists. It is peculiarly noticeable in the form and growth of young evergreen trees in the nursery, causing a more stocky and symmetrical habit. Florists also find it of benefit to the form and flowering of many plants. Various vegetables, as lettuce, cabbage and celery, are especially benefited by one or two removals when young. It is, he declares, hardly possible to have the largest and finest heads of lettuce if the plants are allowed to grow without transplanting, even though otherwise well cultivated.

Fruit Culture.

A Fairfield County Fruit Farm.

BY WILLIAM H. YEOMANS.

GREEN'S Farms, a part of the town of Westport, is situated on Long Island Sound, and on the line of the New Haven and New York railroad. The soil is comparatively fertile; some portions are formed of a sort of decomposed micaceous schist. Where a liberal application of fertilizers has been made, the soil gives evidence of great productiveness. The surface is rolling, interspersed with hill and dale, sufficient to give pleasing variety. About one mile from the Green's Farms station, is situated the farm of T. B. Wakeman, Esq., well known in the western part of the State for his success in the cultivation of fruits, more especially the small fruits. His land is extremely fertile, from the fact that in former years he, with many others in that vicinity, made onion raising a specialty, and, as a consequence, or from necessity, his land was made very productive. Mr. Wakeman, after having tried all kinds of fertilizers, provides for any deficiency that may occur in his barnyard and manure pen, by the purchase of large quantities of leached ashes, which he ships from Canada, and the wisdom of his course is attested in the luxuriance of his meadows and pasturage.

This farm consists of eighty acres, fifty of which are under cultivation. It is well supplied with all necessary farm buildings, all in excellent condition.

There are three and one-half acres of grapes in bearing, with more that have not yet arrived at that point. As an evidence of the value of the application of ashes to the soil upon this farm, a knoll is pointed out which was originally almost wholly barren, and yet, with a liberal use of ashes has been brought to that point, that grapes grow in it to the greatest perfection and in great luxuriance. The vines are set in rows eight feet apart, and about six feet apart in the rows, trained to a

trellis composed of posts set about eight feet apart, with wires stretched the whole length of the vineyard, five to each row. These are usually trained upon the two-eye system. Subsoiling and under-draining with both bones and stones have been tried, with no appreciable advantage. The soil is kept clean and entirely free from weeds, by the use of cultivator and hoe. The varieties grown are principally Concords and Ives seedlings, with some Hartford Prolifics, and a very small number of fancy varieties for home consumption. The Concords and Ives are preferred above all others for marketing. The sales last season, which were not completed at our visitation, were estimated to amount to twenty tons at an average price of eight cents per pound. The fruit is put up in neat boxes, holding from three to eight pounds each, and so sent to market. It has been determined that Concords sell best in the New York market, and the Ives seedling in Boston. The Ives is a much better grape for transportation and handling, in consequence of the toughness of its skin, in which respect it is much unlike the Concord, being remarkably tender, and exceedingly liable to injury from handling. The sales commence as soon as the fruit is sufficiently ripened, which is about the last of August or first of September, and continues until late in the season, as considerable quantities are secured for late sales. They generally bear at three years old. It was a very gratifying sight to behold a portion of the vineyard in the full burden of fruit, the clusters large and fully developed.

Upon the farm are five acres of strawberries; these are set in rows thirty inches apart, fourteen inches apart in the rows. The principal varieties, those considered most profitable, are the Wilson and Jucunda. Considerable care is exercised in keeping the vines well cultivated and shorn of runners. They are kept in bearing but two or three years, but are renewed. In consequence of the close proximity to the sea shore, salt hay is used, and much valued as a mulch. The amount of sales the past year were three thousand dollars. The quantity sold about five hundred

and sixty bushels. The cost of picking was about three hundred dollars.

Currants occupy about three acres; these are set in rows five feet apart, and four feet apart in the rows. The pear orchards are sometimes occupied by a row of currants between each two rows of pears. All fruits are cultivated sufficiently to keep the soil free from all weeds and grass. The varieties are the cherry and LaVersailles, and are considered the only very desirable varieties for market purposes. They are grown from cuttings, which are from four to seven inches long, and are set in rows sixteen inches apart, and four inches apart in the rows: generally set in the fall, leaving the top of the cutting about level with the surface of the ground. Large quantities of wood in the shape of cuttings are annually sold; they are worth three dollars per thousand. The cuttings after being set are covered with salt marsh hay during the winter, and in the spring, if thrown out, as they sometimes are, they are crowded into position. The cuttings should remain undisturbed one year, and are ready for setting or for market, and are valued at thirty dollars per thousand. They will usually crop the third year. No effort is made to prevent excessive spreading from the roots, but the same is rather encouraged, as furnishing large quantities of cuttings. Bushes will last for a long time, if kept healthy. Mr. Wakeman is troubled with the borer, but very little by the currant worm. To cure the currant worm he uses hellebore and carbolic soap in solution, at the rate of one pound of soap in five gallons of water, forcing it upon the bushes through a hydropult, called the North American Plant Protector. The sales of currants and wood amounted to one thousand dollars. The quantity sold the past season was between six and seven thousand pounds, at the rate of ten cents net.

A small quantity of raspberries are cultivated of the varieties of Naomi and Mammoth Black Cap, which are considered the most valuable. The value of sales was one hundred dollars.

In pears there are about three acres. The

varieties which are considered the most valuable, and which succeed best in that locality, are the Bartlett, Swans Orange, Clapp's Favorite, Lawrence and Seckel. There was a demand for Bartletts, and they sold for five dollars per bushel. The crop of pears was not heavy, and the sales amounted to only three hundred dollars.

The apple crop, like most parts of Connecticut, was very light, and sales amounted to only one hundred dollars.

The amount expended for manures upon the farm, which consists of bone meal and ashes, amounts to five hundred dollars. Mr. Wakeman does not, however, neglect all other crops. He raises from one to three acres of onions, principally of the silver-skin variety, for their greater demand and ready sale, also for the increased price which they bring over other varieties. The total sales from the farm amount to from eight to ten thousand dollars. Mr. Wakeman has made fruit culture peculiarly successful, which may be attributed to several reasons. In the first place, he will grow none but the best varieties of the crop that he is raising; not that it is in *every* respect better than other varieties, but for some special quality which it possesses, which brings it especially to notice, and creates demand therefor, whereby he finds ready sales at good profits. In this course wisdom is displayed. A variety may be more prolific, and yet for some reason be less saleable than another variety; but unless sales are made, the producing power of any crop is of but little account to the farmer. Again, whatever he undertakes to do, he does well, believing that there is little profit in a loose, slipshod, hap-hazard mode of cultivation, so that all his fruits are as carefully cultivated and tended, as though all depended upon such care. These conditions, with an apparent taste for the business, and liberal application of fertilizers, render his efforts successful.

A singular fact is noticed in this vicinity. While in many of the eastern portions of the State the quince tree has succumbed to disease, here it appears to be vigorous and productive, so much so that the fruit sells from

five to seven dollars per barrel only. Whether the close proximity to the salt water has any beneficial effect or not, we leave for others to discuss.

That there may be no mistake regarding the quality of the land in this vicinity, it may be stated that pieces in desirable locations are held at four hundred dollars per acre, which is not considered a remarkably high price, and judging from Mr. Wakeman's receipts, land as well cared for as his, would easily pay the interest on that amount of money.

Columbia, Conn.

Strawberry Notes from Kentucky.

BY A. D. WEBB.

TWO years ago I ordered from B. K. Bliss & Sons, a few plants each of the following varieties of strawberries, for the purpose of testing in my soil and climate, and now give the result: Varieties, Black Defiance, Late Prolific, Champion and Kissena. These varieties have all fruited this season, though under very unfavorable circumstances, a drouth through the whole fruiting season.

Black Defiance.—What is it? A new seedling, as represented in B. K. Bliss & Sons' catalogue; or is it an old variety brought out under a new name? From close observation and comparison, I am inclined to the latter opinion. If it differs in the *slightest* particular from the Wilson, I could not detect it. They are identical in my judgment. I am anxious to hear from others, and if my decision is sustained, there is evidently something wrong somewhere. If it proves to be the Wilson with others, as with myself, we paid a pretty good price for it.

Late Prolific.—This differs from any other variety on my grounds. Very promising, fruit large and handsome, and plenty of it. Not late, but medium. Season short. Form of fruit differing materially from cut in catalogue, the larger proportion being rather long and wedge-shaped, firm, and of good quality.

Champion, decidedly the most promising new variety I have tested for years, coming

fully up to all I have seen claimed for it, except in size. A more favorable season doubtless would improve it in this particular. The yield was satisfactory. Fruit uniform and handsome. Of good average size. Continues long in bearing; and if it sustains its reputation for hardness of plant, I predict for it a brilliant future with us.

Kissena.—This variety has proven entirely satisfactory. I started two years ago with three plants. I now have exactly that number. Have lost nothing, and am perfectly satisfied with this variety, as it has proven much better than many others with me. Fruit very handsome. A perfect duplicate of the cut in catalogue. Entirely destitute of that delicate and rich flavor claimed for it.

Bowling Green, Ky.

Pears with Hardy Blossoms.—In these times, when our prospects of fruit are often dashed away by a single sharp frost, and when every spring season fruit growers' hearts are full of perpetual anxiety, it is worth while to call attention to the observations of a correspondent of *The Prairie Farmer* (B. O. Curtis, Paris, Ill.), who speaks from experience:—

Louise Bonne de Jersey, is one of the most noted examples of hardy blossoms.

Belle Lucrative appears as if it particularly delighted in producing a full crop, when all others fail.

Flemish Beauty does not bloom in as great profusion as some others, but every blossom sticks, and a good crop of fruit is sure to follow.

Swans Orange—Some.

The White Doyenné, Seckel, Urbaniste and Julienne may be named as not only among the hardiest pear trees, but as having blossoms possessing, in a high degree, the quality of resisting the frost.

The Bartlett, Vicar, Duchess, Glout Moreau and Beurre Clairgeau are scarcely less productive, but are more or less likely to be injured.

Window Gardening.

Geraniums and Indoor Decorations.

BY JOHN QUILL.

GERANIUM BEDS will now look branchy and uneven, especially if many varieties are massed together, and I would advise those interested in a showy bed of this kind to observe the following method, which if practiced judiciously will add surprisingly to the attractiveness of the bed.

Tall or uncouth branches when done blooming, cut as far beneath where the peduncle had emanated as your judgment may deem necessary. Cut away the tall unshapely branches in this manner soon as the blossoms show signs of decay, and the foliage and branches will grow even together like a finely shaped hedge.

This will detract none from the bloom whatever. The branches thus cut away may be used as cuttings; they will strike root in any cool, moist, shady place during summer.

'Tis an excellent plan to sink geraniums with pots in the open ground in summer, so that they may be removed at pleasure. I found this scheme to work admirably.

Indoor Decorations.—On being asked to decorate part of the house on the event of a social gathering, I was puzzled; our exotics were not showy enough for the occasion. A pleasing sensation of relief crept over me when I recollected that thirty-five or forty different varieties of geraniums were in pots sunk in the large bed. Imagine the effect of these when grouped together at night time with other foliage plants in a cheerful, illuminated hall, gold and green, silver, bronze, zoned and variegated leaves in tasteful masses under a forest of blossoms of numerous colors.

Conspicuous among those plants detailed by me for indoor decorations and outdoor recesses, is the new, scented geranium, "Little Pet." The name is very appropriate and should need no further comments than what the name indicates. When we make new acquaintances or meet with new associates,

we cannot always judge them accurately by their outward appearances. Neither can we guarantee the merits of a new plant until we cultivate it and see it in bloom. "Little Pet" is an acquisition to the scented geranium family that we cannot dispense with, and we hail it joyfully to our gardens and dwellings. Branched low it forms a compact pyramidal, supported on a small woody stem. Leaves, coarse green, very fragrant and cut deeply into six distinct lobes, edges along the lobes delicately cut and ruffled; petals handsome, upright; bright, intense carmine, sprinkled with dark markings along the inner base; calyx large, thick and compressed; panicles short and wiry, scarcely throwing the buds higher than the level of the foliage. Imagine then the effect of from twenty to thirty expanded buds sparkling on the surface of a compact foliage like precious gems set among dazzling rubies. Peduncles start numerously from side and center, some bearing only two buds, some four, and others five and six.

Cincinnati, Ohio.

Watering Flowers in Pots.

MANY who have the care of window plants seem to think that the operation of watering is one of the simplest items incident to their care, and will hardly thank us for advice on this point, and yet we may safely hazard the assertion that more plants are injured and more fail to reach their greatest perfection from an improper mode of watering than from all other causes combined.

To so water the various varieties that their different wants shall all be supplied and *no more*, is an art acquired by but few, and the credit which some receive for fine collections is often due to the proper observance of this one item.

It should be kept in mind that the duty of the water is to dissolve and convey to the roots of the plant the food which they need; some plants must have a season of comparative rest, and if such are watered liberally during this time they will keep on growing and the necessary rest is not obtained. When any of my lady friends tell me that they

succeed very well with certain classes of plants, such as the Fuchsia, Calla, Lobelias and Ivies, and fail with other, I at once set them down as being profuse waterers, who by too much water injure or destroy such plants as will not bear it. On the other hand there are those who fail with this class of plants and succeed well with others, because their mode of watering does not supply enough for the wants of one class, but is about the proper amount for another.

Many plants are permanently injured by water remaining in the saucer; others often suffer from a bad selection of the soil.

Some of our amateur florists fail with a certain class of plants, of which the Begonia may be taken as a type, because they shower the leaves with cold water, but for this very reason are eminently successful with another class, of which the Camellia will serve as a type.

As a general rule, from which there are few variations, the texture of the leaf may be taken as an index of their power to resist the application of water. Plants having porous, open or fleshy leaves covered with soft down should be seldom, if ever, moistened, while those having glossy or hard leaves will do all the better if washed frequently.

Our Ivies, Hoyas, and Coleas seem to laugh at us after a good dashing, but the Begonias, Coleus and plants of the same class do not appear to appreciate it. HORTICOLA.

Dielytra Spectabilis forcing in Spring.—Few plants are more useful for forcing in early spring than *Dielytra spectabilis*, but it is seldom grown to such perfection as it might be. In going round a garden the other day in the neighborhood of London, we observed some beautiful specimen plants in the conservatory, with the flower spikes growing well up over the foliage. The gardener informed us that, in order to produce this result, he always started his plants in a dark cellar or other such structure, and when the flower spikes are a certain height they are gradually inured to the light, when they produce their beautiful racemes of flowers a good distance clear of the foliage, and the

effect such plants have when arranged amongst a collection of other plants is very charming indeed.—*The Gardener's Record*.

Worms in Pots.—To avoid having worms in pots, the amateur has only to first bake the soil in an oven or over a hot fire, then rub it fine, water it, and put in the plant. The process of baking kills all worms or eggs which might develop. For pots which already contain white worms, use either lime water or a weak solution of carbolic acid and water.

Tri-Color Geraniums.—In growing these favorite plants, amateurs will need to remember a few hints suggested by experience. Professional gardeners have this as their creed :

1. A good, warm greenhouse.
2. Plenty of light.
3. A good thrifty plant to begin with.

In making up the earth to put them in, take this as your composition :

Turfy loam, two parts, well rotted; cow manure, one part, well rotted; coarse sand, one part.

Mix all together by hand; use charcoal at the bottom for draining; even dry rotten moss to cover over the charcoal is useful. Plunge the pots in a bed of tan or leaves (a good bottom heat must be kept up constantly); keep the bed damp, water the plants sparingly, *and never allow a drop of water to touch the foliage.*

This little item seems a very small matter, yet, with some gardeners, it is kept as a profound secret.

The following is a good list of six varieties, of different shades of color:

1. *Sophia Dumaresque*.—Broad golden margin, dark crimson zone. Strong grower.
2. *Lady Cullum*.—Broad rich leaf, dark zone, margined with scarlet and gold.
3. *Louisa Smith*.—Green foliage, margined with gold, and red dark zone.
4. *Mrs. Pollock*.—Fine, large green leaf, overlaid by a beautiful bronze and red zone, edged with red, margin golden yellow.
5. *Sunset*.—Golden margin, broad dark zone, shaded with scarlet.
6. *Italia Unita*.—Leaves margined with white, bright carnine zone.

New and Rare Plants.

Purple Cone Flowers.—(*Echinacea purpurea*)—A specimen of this plant, was cultivated in 1873, in grounds of Department of Agriculture, at Washington, which from their report seemed to present features worthy of commendation to gardeners. "Although somewhat coarse in foliage, its large flower-heads terminating the naked peduncles are quite showy from the dark-purple, almost black, conical center, and the numerous (10 to 15) light-purple pendent rays. These rays are about 2 inches long by $\frac{1}{4}$ inch wide. The plant is vigorous and hardy, and is worthy of trial in the flower-garden."

Dracena Amabilis.—Introduced in England by Messrs. Veitch & Sons, and considered one of the most distinct and handsome yet obtained. Is of robust habit; leaves of a narrow linear lance-shaped figure, averaging from 2 feet to $2\frac{1}{2}$ feet in length, and from 4 inches to 5 inches in breadth. The character of its variegations are of a splendid quality. The ground color of the leaf is of a bright, glossy green, which, as the plant grows, becomes marked and suffused with pink and creamy white, the young leaves in large specimens being quite rough—a charming combination of coloring, attractive not less for its intrinsic beauty, than for its distinctness and novelty. Was awarded the first prize as best new foliage plant at the recent International Exhibition, in Ghent.

Daemonorops Patermarianus.—One of the most elegant of palms, and exceedingly appropriate for table decoration and other ornamental purposes. The leaves are broadly ovate, pinnate, consisting of numerous elongated segments, and they are supplied by leaf stalks, bearing numerous deflexed spines, which latter are thickened at the base. The young leaves are of a bright cinnamon brown, and the contrast between this warm color and the deep green of the matured leaves, renders the plants exceedingly beautiful during the period of their development. Is a native of

Java, and introduced into England by William Bull.

Maranta Seemannii.—A desirable stove decorative plant, of remarkably fine growth, with leafy stems, and bold oblong ovate acuminate leaves, about a foot long, and nearly 6 inches broad; of a beautiful emerald green when young, and of a deeper green when matured; transversely ridged, but chiefly remarkable for their velvety lustre, which gives them a most pleasing effect. The midrib is hollowed out, and of a whitish color, while the under surface is of a rich wine red, and this in the unrolled central leaves contrasts finely with the rich lustrous green. It was found in Nicaragua, Central America, by the late Dr. Seemann, by whom living plants were sent to England, and are now in the possession of William Bull.

A True Variegated Rose.—The Hudson, N. Y., *Republican* notices the production of a new variegated rose by a florist of that city, and says that this is the second one allowed to come into bloom of the cuttings from which he is propagating this rare novelty. It has been named the "Cora Macy," after one of his daughters, and promises to become a flower of great beauty and value. This rose originated as a "sport" from an ordinary monthly rose of deep red color in Mr. Macy's dooryard last season. It was transferred to his greenhouse and judiciously forced until several healthy plants have been obtained, and found true to color. The form and fragrance of the parent rose are fully preserved, while the leaves are all beautifully variegated in red and white, blending in the most perfect manner.

Aralia Veitchii is regarded by Messrs. Veitch as entitled to the highest rank as an exhibition foliage plant, and as a dinner table decorative plant it is probably without a rival. The plant has a slender-growing, erect stem, furnished with handsome digitate leaves, composed of about eleven narrow linear elongated leaflets, which are distinctly wavy at the edge, of a dark, glossy green color on the upper surface, and dark red beneath. These standing out on their long, slender, but rigid petioles, have a remarkably elegant character.



Daemonorops Palenbranicus.



Maranta Seemannii.

Editor's Portfolio.

A Cheap Journal.

This number of THE HORTICULTURIST contains ONE HUNDRED AND EIGHT separate articles and topics on gardening, etc. Every one is practical, is worth reading, and there is not a waste line which should be overlooked. Think of twelve such numbers a year, and then realize fully how cheap the price—one hundred items for sixteen cents, less than a quarter of a cent, or a farthing each.

Design for Cottage.

The illustration of cottage, which appears in our frontispiece this month, is taken from a design by C. Arthur Totten, architect of this city, and is intended for a small cottage, or suburban residence. The exterior appearance of the house is decidedly tasty, while the interior arrangement is exceedingly convenient and sensible. A wide hall runs through the house, having a door in the rear, the main entrance being from a veranda. To the right are the dining room, 12 by 12 feet; and kitchen connecting, 12 by 11 feet. To the left is the parlor, 12 by 12 feet, with a large closet and storeroom behind. The china closet is in the hall under the stairs. On the second floor are three bed rooms, of same size as the rooms beneath; and in the front part of the hall is a large closet for linen. The roof should be of slate, in fancy patterns, and the siding laid in perpendicular lines for the upper part of the gables, the ends being cut in an ornamental pattern. The gables over the dining room and kitchen are filled in with a timber arch and brackets, the edges chamfered, the framing below showing half timbered. The gable over the parlor is obtuse, with ornamental brackets and panels, as before. The gables have finials, and dining room window, a projecting hood, with supporting brackets. The chimneys are carried up with projections in pressed brick. The effect of the whole is exceedingly pleasing, and the estimated cost of the building is only \$2,200.

Report of Connecticut State Board of Agriculture, 1874.

We have received from T. S. Gold, Secretary, this volume, devoted exclusively to the peculiarities of Connecticut agriculture. Its contents relate more specially to the question of manures, and the cure for sterility of soils, and the discussions seem to have brought out some valuable points as to the use of fish guano. Prof. Johnson has also given some very valuable statistics on commercial fertilizers.

Wisconsin State Horticultural Society.

We should have acknowledged, ere this, the receipt of the Report of this Society for 1873. It is edited by O. S. Willey, and contains 200 pages of reading, with much valuable information, and essays upon fruits and gardening in the State. It is a useful volume, and quite practical.

Beurre d'Anjou Pear.

We are glad of an opportunity to give additional testimony to the Beurre d'Anjou as a tree. Lately in our climate (Delaware) we have observed that grown on the dwarf, it is not only earlier to come into bearing than the Duchess d'Angouleme, but also much more productive. In our climate (south of lat. 42 deg.) it is fully as deserving of extended planting as the Duchess, and we prefer it as a dwarf, to the same tree as a standard for early and profitable returns. We have trees that bore in second year from planting, while the Duchess in same soil was four years before it began to produce.

Gilt Edged.

This has become a current expression, used to express anything unusually fine. We never supposed it could be applied to the pursuit of Pomology, but it seems to have been done, and in the following way: A fruit-grower in Western New York (as stated by E. Moody, of Lockport), took a quantity of Bartlett pears of prime quality and packed them in two similar barrels. The fruit in one barrel was carefully wrapped in pink tissue paper and the barrel lined very neatly with the same. The fruit

in the other barrel was also carefully handled and nicely packed, but not wrapped in tissue paper, nor the barrel lined with it. When sent to market the first barrel sold for \$15, the other barrel brought \$5. So much for the "Gilt Edge."

Winter Pears.

We wish this subject could be better ventilated. One grower thinks Winter Nelis best and most reliable—another advocates Duchesse de Bordeaux, while another brings the *Josephine de Malines* before public notice. All good, say we, but what of the *Beurre d'Arenberg*? Is not that worth looking after? The Lawrence is our best favorite, but it does not keep long enough. What have the friends of Mount Vernon to say in these late days—has it been forgotten so quick? Does the Doyenne du Comice prove a fine grower and productive? Who can give the public worthy notes on the comparative merits of these for amateur plantation?

Conover's Colossal Asparagus.

This has now been well introduced into England, and tried with such success, that one gardener writes to the *Gardener's Chronicle*, they find it "earlier for use, and also plants of the same age as the Giant are nearly double the size, so that it may be considered a valuable addition," and yet our American scientific horticulturists who insist upon it that it is not a new variety, cannot for their lives tell why it is so much better, or account for its growing in poorer soil, yet attaining double the growth in half the time of the old sorts.

Auction Sale of Plants.

At a recent auction sale of plants by Mr. Mitchell, near Southgate, England, some specimens reached most astonishing prices. For instance: *Cattleya Mossiae*, \$73; *Sarracenia* sp., \$184; *Sarracenia Drummondii* alba, \$157; *Azalea stella*, \$52.50; *Azalea chelsoni*, \$55; *Hedera tulipifera*, \$80; *Gleichenia rupestris*, \$99; *Adiantum farleyense*, \$27; *Anthurium Scherzerianum*, \$330; *Cocos Weddelliana*, \$145; *Nepenthes sanguinea*, \$71; *Nepenthes Hookeri*, \$130.

Indian Perfumes

From all Indian flowers, essences are distilled. The center of this manufacture is Ghazepore, a town situated on the north bank of the Ganges above Benares. The process is extremely simple. The petals are placed in clay stills with twice their weight of water, and the produce is exposed to the fresh air for a night in open vessels. The next morning the attar is found congealed on the surface, and is carefully skimmed off.

These essences would be very beautiful if they were pure, but the native distillers being but little skilled in their art, add sandal wood shaving to the flowers to facilitate the extraction of the attar, which thus becomes tainted with a heavy sandal wood flavor. Besides these essences, perfumed oils are also made with some of these flowers in the following way:

Ginjelly oil seeds are placed in alternate layers with fresh flowers in a covered vessel. The latter are renewed several times, after which the seeds are pressed and the oil produced is found to have acquired the smell of the flowers. Musk, Civet, Ambergris, Spike-nard (*Valeriana jatamansi*), Patchouly and Kus Kus, are also favorite perfumes with the Indians.

The last named which is the rhizome of the *Anatherum Muricatum*, is made into mats and blinds, which being watered in the sun, give out a most pleasant odor.—*Rimmell's Book of Perfumes*.

A Curious Fine.

A market gardener living near London, was recently fined \$20, and costs, for offering for sale in London, vegetables in a condition unfit for food.

The Cost of Shade Trees in Paris.

A Paris journal states that the annual cost of securing shade trees, flowers, and rare plants for the parks and public walks of Paris is as follows: *Bois de Boulogne*, keeping, 387,000 francs; *Bois de Vincennes*, keeping, 270,340 francs; squares, 545,220 francs; cost of plants, flowers, etc., 40,000 francs; expenses of the houses, 12,000 francs. Total, 1,253,560 francs, or \$250,000.

Green Gage Plum. Origin of Name.

The origin of this name is said by *Notes and Queries* to be as follows: "The plum was brought into England about the middle of the last century, by the Rev. John Gage, a Roman Catholic priest, connected with a Monastery near Fontainebleau, France. The laws of that time against Roman Catholic priests were so severe, that Mr. Gage lived abroad, but frequently visited his brother Sir Thomas Gage, of Hengrave Hall, near Coldham, in the county of Suffolk, 5th baronet. In one of these visits he brought over from the garden of the Monastery, grafts of the fruit which were cultivated in the garden at Hengrave Hall, and soon were spread throughout England. This story is vouched for to absolute accuracy.

Sub-Rosa.

The origin of this custom seems to date back as far as the 16th century, where it is mentioned by Newton in his "*Herball to the Bible* in 1587," as follows: "I will heere adde a common country custom that is used to be done with the rose. When pleasant and merry companions doe friendly meete together to make goode cheere, as soone as their feast or banket is ended, they give faithfull promise mutually one to another, that whatsoever hath been merrily spoken by any in that assembly, should be wrapped up in silence and not to be carried out of the doores. For the assurance and performance whereof, the tearme which they use is, that all things there saide must be taken as spoken *under the Rose*. Whereupon they use in their parlours and dining roomes to hang roses over their tables, to put the companie in memorie of secrecie, and not rashly or indiscreetly to clatter and blab out what they heare. Likewise if they chauce to shew any tricks, wanton, unshamefast, immodest, or irreverent behaviour, either by word or deed, they protesting that all was spoken under the rose, do give a strait charge and pass a covenant of silence and secrecy with the hearers, that the same shall not be blowne abroad, nor tattled in the streets among any others,"

Rose Banquets.

Cleopatra is said once to have purchased roses for a banquet, on which occasion the floor of the apartment was covered with roses to the depth of a cubit, or $1\frac{1}{2}$ feet.

Suetonius relates of Nero that he spent upwards of \$150,000 at one supper in the purchase of roses.

Horticultural Humbugs.

The gardeners of England are considerably puzzled over a new seed which is most astonishing in its merit, and of which the introducer claims the following qualities:

Persian Asparagus.—"This is a new and rare variety, surpassing all others for its size, tenderness and delicacy. It is fit for table 3 months after planting; each seed at this short season producing 3 stalks as large as a candle, and will, during the year, produce at least half a bundle. It is fit for use all the year except the winter months; is not susceptible to frost, and will grow in any country or soil." Whether the genius who put that out was successful or not, he has a smart rival in America, who has been admirably successful in selling another humbug, viz.: *The Arctic Morning Glory*. The following story we tell on the authority of Messrs. Briggs Bros.: "Late last fall a plausible appearing, farmer-like man, made his appearance in this city and vicinity offering seeds of the Arctic Morning Glory. The great feature of this new *rara avis* of flowering plants, consists in its being naturally scented with a very agreeable and desirable perfume! The said sharp *soi-disant* florist had with him the veritable *Simon pure* seed growing very thickly out of a piece of sponge, to exhibit to and convince the most skeptical of the truth of his assertions. Of course he kept away from us, as he knew his customers by his previous experience. One, and the most current of his stories was, that he had several acres of it growing on his farm at Astoria, N. Y., that it was recently imported from the regions of ice and reindeer, and, consequently, very hardy—was totally unlike any other Morning Glory, and, taking all its virtues into consideration, it was the rarest novelty

ever imported, and all for the low consideration of ten cents per packet. His most fertile field of operations was in the large workshops and stores. Nearly all his customers indulged in two packets, as it was so cheap as well as rare. That he must have netted a very handsome sum we believe, as we know that he took about \$40 out of one large establishment alone, and, as he canvassed the business portion of the city thoroughly (as well as expeditiously), he must have been well satisfied with the results of his labor. The seed he imposed upon his customers proved to be *the common garden Radish*. His plan of procedure consisted in filling a sponge with seed, and, after sprouting it by means of hot water, etc., to perfume it sufficiently to give weight to his story. When last heard from he was visiting eastern cities, and there displaying his wonderful phenomenon."

Where, oh where, is the Department of Agriculture, or our enterprising seedsmen. Here is a fine chance for that *Persian Asparagus*.

How Dr. Torrey became a Botanist.

The late Dr. John Torrey, the distinguished scientist, is said to have first acquired a taste for scientific pursuits in the following remarkable manner:—His father held some official station which required him to visit the prisons of the city of New York, and the lad frequently accompanied the parent on these tours of inspection. In the old State Prison, which at that early day was somewhere about Twenty-third street, and situated in the country, they found a man in the office of the superintendent who had been condemned to serve out a short term, but was generally believed to have been innocent of any offence. This prisoner was taken into the office to keep the books. He was a man of learning, and especially a fine botanist. Whenever young Torrey appeared at the prison the bookkeeper would point out from the window some plants growing in the vacant lots opposite, and ask the boy to go and fetch them; the two then sat down in the office to analyze and dissect the specimens, presenting the curious spectacle of a prisoner in convict's costume teaching a well dressed boy. The lad never forgot the lessons, and from the

taste thus acquired dates his application to the study of botany, in which science he was destined to achieve the most distinguished success.

A Fine Park.

In a recent issue of *Lippincott's Magazine*, appeared a commendatory notice of the successful efforts of Robert Morris Copeland, in developing fine architectural and landscape effects wherever he had fully opportunity to carry out his plans.

The plan of Ridley Park was confided to him. He knew well how to compose his picture, arranging the groves and lakes in the most beautiful sequence, leaving sites for fine houses in the manner of pedestals for beautiful statues, and shading with discreet and natural veils the more utilitarian and prosaic features of the scene. He already had much experience in the laying out of towns on novel plans adapted to the situation. His improvement of parts of Newport had elevated his name into very proud notoriety. At Martha's Vineyard he built a summer village known as Oak Bluffs; on Long Island he designed a beautiful city of summer worship for the Methodists, half encampment and half metropolis—a very Jerusalem for loveliness; he established and designed an ornamental village on the seashore at Duxbury, near Boston; and planned another near Grantville, on the Boston and Albany railroad. He was also the author of an ingenious public plan for the improvement of Boston with a constellation of small parks and pleasure grounds, skillfully arranged in the portions where land is cheapest and most available. Even in his temporary residence at Ridley, the restless itch of artistic skill did not permit him to leave the place without changing an eyesore into a master-piece. A little judicious rustic work transformed the farm-house assigned for his residence into a beautiful vine-clad chalet, and he surrounded it with spacious and rare flower beds, which look like cathedral windows lying on the ground. The railway station even at Ridley Park is a novel and interesting piece of architecture, bridging the whole breadth of the road, provided with elevators for the baggage, and fancifully sheeted with slate.

Popular Science.

Effects of Sulphate of Iron on Vegetation.—Experiments, with this substance diluted, have been made within the circle of our own knowledge, and uniformly resulted favorably. We observe that a French scientist, M. Eusebe Gris, has been making detailed experiments, and finds the following definite conclusions: That the salt is a stimulating manure; that it presents no danger when intelligently applied; that its action is evident upon the coloring principle of leaves; that from its cheapness a few cents' worth is sufficient to treat hundreds of plants; that it might be applied to cultivation on a large scale, and especially to the cultivation of fruit. His manner of applying the sulphate is as follows: A solution of two drachms to one quart of water is made, and with this the plants, previously placed in the shade, are watered. It is presumed that the earth surrounding the plant is moist; if this is not the case, a more dilute solution must be used. The solution may be applied daily for five or six days; about two and a-half ounces are sufficient for each watering of an ordinary-sized plant, as a calceolaria. Plants which have become sickly, colorless, and etiolated, will, under this treatment, quickly recover a full green color, give finer flowers, send forth more vigorous shoots, and generally show the good effects of the tonic.

Effects of Potash in Curing the Cracking of Pears.—The effects of lime, phosphate and potash, as indeed all mineral fertilizers, are always beneficial to trees, but it is a new idea to learn, as thus stated by a correspondent of *The Gardener's Monthly*, that potash and lime will cure cracking of pears. Pears do not crack when the soil is sufficiently supplied with lime and potash; and they crack most where those salts are deficient. Common wood ashes contain those salts, nearly in the quantity and proportions that pear trees on such soil require—forty per cent. of potash and thirty per cent. of lime. Reasoning from these facts, I applied wood ashes at the rate

of four hundred bushels to the acre, after the fruit had formed and cracked. Many of them healed up and *made perfect fruit the same season*, others not until the next season. A friend, at my suggestion, applied it heavily to a favorite *Butter pear tree* in his own garden for several years in succession, and has had for several years perfect and delicious pears, and I will guarantee it to cure any case, where the ashes are fairly and abundantly applied.

I was told by an experienced hand that I would kill the trees; but on the contrary, I cured them. Therefore, do not be afraid; if one application will not suffice, give them a larger dose next year.

A moist atmosphere undoubtedly encourages the growth of the tree and fruit, while the insufficiency of proper food prevents the perfection of either; hence, cracked fruit and "rough old bark."

Tropical Vegetation.—A Panama paper gives a striking illustration of the vigor and rapidity of vegetation in the tropics, by referring to the bushes and trees growing in the ruins of the burnt Aspinwall hotel at Panama. It is scarcely more than two years since this conflagration occurred, and yet there are now growing within the walls trees at least 30 feet in height. They belong to what are called trumpet trees (*Cecropia*), and the branches are said to be crowding out of the highest doors and windows.

Diseases of the Potato.—A series of experiments made by Professor Ville, in France, show that the diseases that attack the potato are in part the result of a deficiency in the supply of potash in the soil. For five years in succession the Professor planted potatoes in the same soil without any fertilizer; to other plots of ground he added fertilizers that did not contain potash. In all these cases the fruit became diseased in the month of May, while on the other plots where potash was supplied in sufficient quantity, the plants were healthy and yielded an excellent product.

A Covering of Snow as a Protection against Frost.—Ebermayer gives, in his recent work on the influence of the forests, a table of observations, showing the temperature

of the earth covered by snow during the very cold weather of December, 1871, in Bavaria. On the 8th and 12th of December the temperature of the air at Vienna fell to minus 26.8° Fahrenheit, while the temperature of the earth beneath the snow was no lower than plus 33.5°, and four feet below it was 42.8°. So long as the snow lies, the variations of temperature under the earth's surface are very slight, and hence the snow itself is the very best protection of seeds, young plants and other vegetation against frost.

Effects of Gas in Plants.—Herr Boehm, of Vienna, has been experimenting on the influence of coal gas on the roots of plants. The evil effect has generally been attributed to the gas which leaks from the pipes, or the coal tar which oozes from the joints of the pipes, impregnating the soil, and rendering it black and fetid. According to M. Boehm, the latter is the true cause, and the remedy suggested is to enclose the gas pipe in a second tube, open at the end, so that a current of air may circulate around the gas main.

Ozone.—According to observations made in Germany, the average of ozone is nearly double on snowy days, and is considerably greater on rainy days than it is on clear days. Fog is unfavorable to its production, but a driving snow storm greatly promotes. Cold winds bring more than hot winds. As a disinfectant, no fluid acts more positively in decomposing and dispersing offensive substances. D. Fox quotes *Schöenbein* as saying that "air containing one three million and forty thousandth of ozone, is capable of disinfecting its own volume of air filled with the effluvia evolved in one minute from 4 oz. of highly putrid flesh.

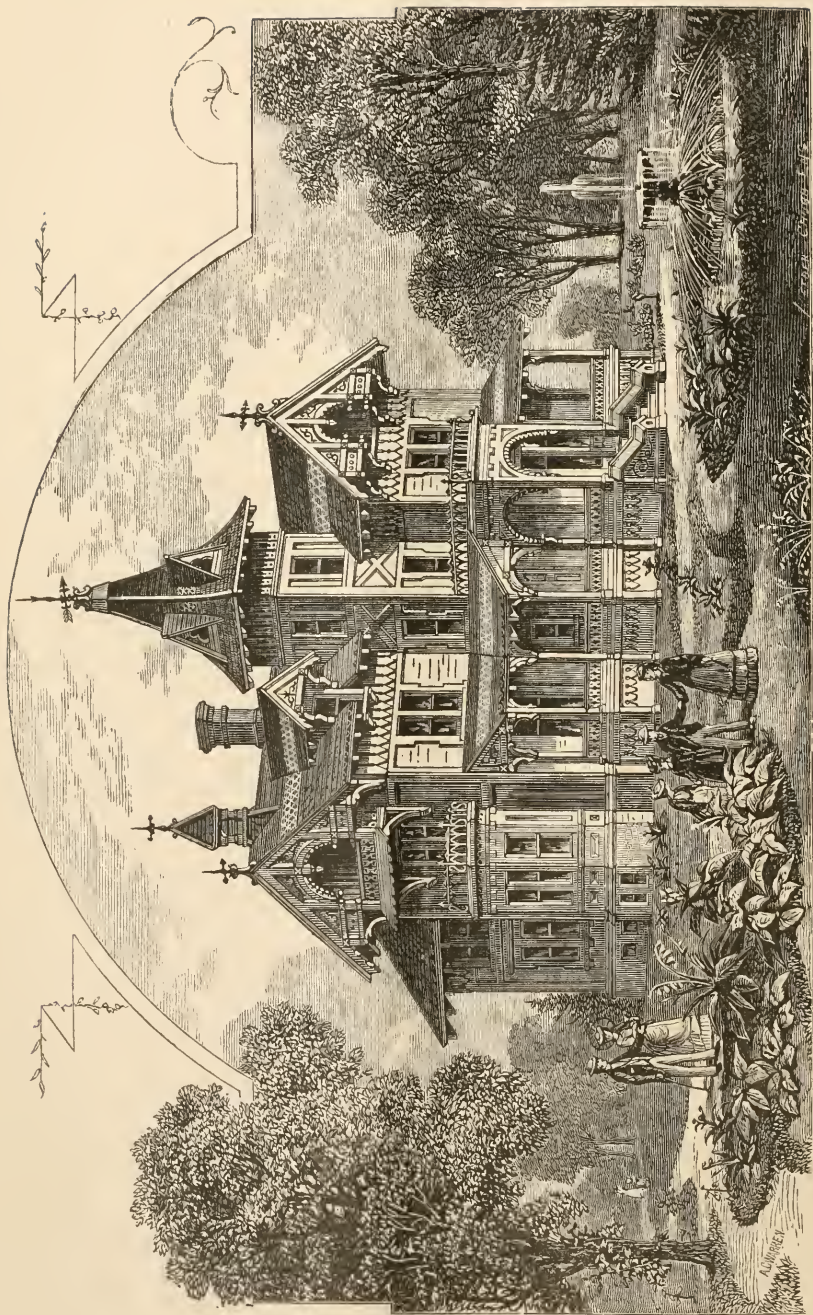
Manufacture of Paper from Hop Stalks.—M. Jourdeil, of the department of the Côte d'Or, in France, has recently submitted to a congress of paper-makers of that country an invention, or rather a series of inventions, for separating and using the textile material which envelops the stalk of the hop, in the manufacture of paper. The experiments with this new fiber have already reached some remarkable results, and great confidence

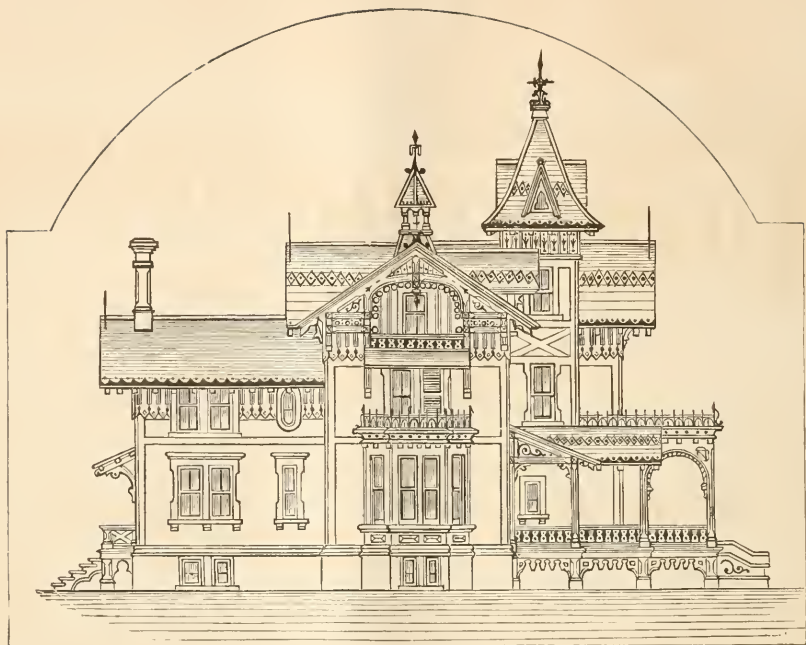
is indulged that a discovery has been made which will prove of great interest and value to agriculture, as well as to the paper-making industry.

A Chameleon Plant.—A puzzle, says *Land and Water*, for horticulturists has been forwarded by the French Bishop of Canton to the Jardin d'Acclimation in Paris, in the shape of a plant which is a conspicuous specimen of the wonderful art possessed by the Chinese of leading nature astray. Not content with improving on the human foot, and producing pollard oaks, apparently of hoary antiquity, in China bowls, they have succeeded in growing a plant which changes color three times a day.

Effect of Street Gas upon Vegetation.—By a series of experiments upon the effect of gas upon different species of trees, by Messrs Späth and Meyer, in the botanical gardens in Berlin, it has been found that when the gas is brought into contact with the roots of trees for considerable length of time, in quantities however small, though some trees are able to withstand this influence longer than others, yet all must finally succumb, and will at last sicken and die. The influence is much less active during the winter, when the root-lets have become woody, than during the period of growth in the summer, when they are young and tender, and are therefore in a better condition to absorb the gas.

Fungus in California.—D. J. Strentzel, in the *California Horticulturist*, states, that two years ago, in the orchards along the Sacramento river, was first observed the extended growth of a new fungus, or lichen, on peach trees, covering the fruit in ash-colored blotches, and the ends of growing shoots in detached masses, spreading from a cottony tuft of a growing germ. The leaves on the affected part drop off later in the season, and the end of the shoot generally dries up. The growth of the fruit is not apparently checked, but the thin-skinned varieties, on ripening, get a puckered up, pocky, disgusting appearance. The earliest varieties are most affected; the yellow, among them the Crawford, not so much. None was noticed on the Snow Peach.

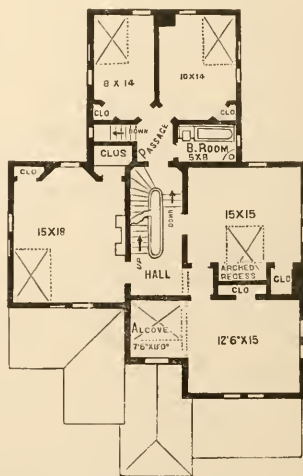




SIDE ELEVATION OF VILLA.



Plan of First Floor.



Plan of Second Floor.



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Editorial Travels.

Shaw's Gardens, St. Louis.

BY HENRY T. WILLIAMS.

OF the various enterprises of the West, identified with ornamental gardening, the most prominent which we have seen in our travels is that of Shaw's Gardens, St. Louis. As a botanical garden it is perhaps the very best in the West, as pains have been taken to gather a large number of the best specimens of each class of plants. But its celebrity has come mainly from its popularity as a pleasure resort for the citizens of the city. It bears the same relative position in St. Louis among pleasure lovers, as the Central Park in New York city, or Woodward's Gardens in San Francisco. Originally known as the Missouri Botanical Garden, it was founded in 1858, by Henry Shaw, Esq., a wealthy citizen of the city. Possessing a love for rural ornament and gardening, as well as being the owner of an immense landed property on the outskirts of the city, measured by the square mile or more, he

began the formation of the garden, both for personal amusement and yet with benevolent purpose—to afford a good example in the encouragement of rural taste. It has grown in his hands from small beginnings, until at last it fills a space of no less than 110 acres. The city has grown out to it; its finest avenue now skirts his property, and like many other places of like beauty, it has passed from its beauty as a private place to its form as a favored resort for the public, and some time since was presented by him to the city, and now is the most acceptable place of enjoyment in the vicinity. It is surrounded by a very high and strong stone wall, and after passing the porte, the horticulturist will, in making his tour of observation, notice first the profusion of shrubbery, which gather mostly in the beds at the back-ground, near the wall. The place inside is divided up into beds, paths and small avenues, with an idea mainly to convenience rather than picturesqueness or attempt at geometrical gardening. Tall arbor vias stand singly up and down the paths, from 15 to 20 feet high, and Norway spruces, 30 feet or more, are exceedingly frequent. Immediately

in front of the gate, and in the center of the principal garden, is the large conservatory, and in front of this is a plaza of perhaps 200 feet square, surrounded by a raised turf embankment of two feet. Each side has an entrance of descending steps, and on each side of the steps are large tubs with noble specimens of agaves, usually five feet in height. Within this plaza are grouped not far from 20 flower beds, each containing a different arrangement of plants. One bed contained in the center a tall spruce, the ends each a juniper, and the intermediate spaces were packed close with standard roses. Another bed, circular, had an arbor vitæ, six feet high, in the center, and completely surrounded with the *Cineraria maritima*. A third bed had a juniper in the center, and the rest filled with a solid mass of petunias in bloom. A fourth had an arbor vitæ in the center, surrounded by the Lemon Verbena. The center bed, star-shaped, contained two vases with agaves, mounted upon stone pedestals, and the rest of the bed was filled with scarlet geraniums. Four junipers, eight feet high, graced the corners. Another year, when visiting there, these beds were filled with vincas only. Two small oval beds contained in the center an immense colocasia, and the rest was filled up with caladiums. These beds were each duplicated exactly opposite each side of the center path.

One of the most striking scenes was a long hedge, reaching from this plaza to the tower or pavilion, consisting of Japan quince, smoothly cut and very symmetrical, four feet high. Between this and the turf-covered walk was a row of striking cinerarias, and backed with the still more showy flowers of the Phlox and Geranium.

A special feature we noticed here in the use of flowers, is the frequent use of popular flowers, easily grown, and which most people know. Annuals, perennials, verbenas, geraniums, vincas, roses, etc., are used in the utmost profusion, and few others. There is really little attempt at the fashionable garden diversion of the present day—*subtropical gardening*—for indeed the place is so full, there is little room for it, and there is absolutely no lawn until

we pass beyond the wall into the immediate ground of Mr. Shaw's own residence.

Around the plaza extends a grand walk, and along this are laid long beds of infinite varieties of flowers, and curious plants. A good feature is, that each plant or bed has a stake designating the name. Thus people see and learn, without asking troublesome and needless questions. We noticed in juxtaposition the Fountain Plant (*Amaranthus salicifolius*), echeverias, verbenas with scarlet eyes, portulacæas, perpetual roses, geraniums, etc., etc., alternating with each other. Outside of this walk, the gardens are made up of successive strips of lawn, evergreen, hedges and flower borders. At one part of the garden, all paths and beds converge towards the tower; then back of the conservatory all are arranged to meet the gravel walk, which passes close to the wall. One border we remember was devoted entirely to pæonias, coleus and zinnias. Another and very large border, say 50 feet wide, contained specimen plants of cannas, ricinus, low-growing shrubs, spiræas, magnolias, arranged in due order back of each other, according to height, from lowest to highest. Even the Sunflower was not despised, but hung its huge head modestly, as though it knew it were in the presence of more brilliant society. Stretched along the wall, 10 feet high, is a large trellis, covered with a mass of the luxuriant Trumpet creeper, whose blossoms show such a dazzling glory above the dark green of the leaves. Close along this wall is a long row of roses, each named. In another part of the wall is a long space devoted to a trellis for climbing roses. In fact, from the opening of spring to the end of summer, every day can show something in bloom, and the visitor can always come each week, and see something new unfolding its delicate blossoms. In blooming time the gardens are a wilderness of roses. They grow everywhere, and in one bed it was a delight to me to see a real hedge of them, all kinds mixed, and very strong and healthy. Farther up the large wall we meet other climbing plants—the old familiar Cottage Honeysuckle; then the American Ivy, or Virginia Creeper; then a

bewildering, yet bewitching mass of grapevines; then figs trained against the wall, and nearly in fruit. Standard altheas are everywhere in blossom, and clipped spruces add another feature of novelty. One of the prettiest beds was of a semi-tropical character, consisting of ricinus, cannas of all sorts and colors of leaves, bordered with scarlet geraniums.

The tower is a most charming place for a view. From here you look down upon all this loveliness, and behold the general effect far better than from any other point. It is octagonal in shape, with handsome portico and pillars, with stairs leading to second story, and surmounted with curved roof, painted blue, and an ornamental vane. From here can be seen the beds of quarter circles, with the rose hedges and borders of long rows of lilies, tritomas, yuccas and ornamental grasses.

A little turf-covered border to a walk is lined with box single plants, and alternate plants of the *Achyranthus*, *Geranium* and *Lemon Verbena*. A common feature is the frequent hedges of different material. One hedge consisted of the *Spiræa prunifolia*, or plum-leaved spiræa of China. Then there are hedges of *Juniperus sabinus*, the Osage Orange. In the back part of the garden is a succession of stone mounds, whereon either trails some pretty vine, or are gathered ferns, such as the *Osmunda interrupta*, *Onoclea sensibilis*, *Dioscorea vellosa*, and over forty others. One little bed contained nothing but varieties of the *Cornus florida*, sanguinea, sericea. Even the Tobacco Plant (*Nicotiana tabacum*) was allowed to grow and bloom, and a right pretty object it was. By the side of it was the *Nicotiana glauca*, of smaller leaves but lighter green. A favorite feature of the garden was to gather plants into groups, as many specimens and varieties of each genus as possible. The *Solanums* were gathered in one group by themselves, the most noticeable specimens of which were *dulcamara*, *warcewiczoides*, *discolor*, *sieglinge*, *malongena*. Throughout the entire garden were beautiful specimens of *Juniperus virginiana*, *glauca*, which seemed to be a favorite plant for corners and borders. Among other fine plants in the

garden were noticeable the *Pinus cembra*, from Siberia; *Biota orientalis nova*, from China, 10 feet; *Cupressus Lawsoniana*, *Cypress*, Oregon, *Abies nigra*, *Black spruce*.

The Conservatory.

This is the most interesting architectural feature of the place. It is a large stone building, with 16 long windows and a roof of glass. At the top of the building is an inscription in raised stone letters, "Glory to God in the highest, and on earth peace to men of good will." Readers will notice the transposition of the last few words, as compared with the Scripture, "on earth peace and good will to men." We suppose this was intentional by Mr. Shaw, to encourage good will among visitors "not to pluck the flowers."

The interior of the house was filled with greenhouse plants of usual assortment, the largest of which were Palms, some of them 40 feet high; the *Wigandia carriassama*, a lofty tree with wide palm leaves, and bending beneath the weight of cone-shaped purple flowers; a Japan plum tree, 25 feet high, with big leaves, bear clusters of fruit like crab apples; the Dragon Tree, from Africa; the India Rubber Tree; the delicate and magnificent Azaleas; the Eucalyptus; Fuchsias, nine feet high, with scarlet blossoms; the olive, and a huge collection of cacti, said to be the largest in the world. The conservatory is surrounded by a large number of others, not quite as high, but large, and these are filled in their season with an immense number of plants, propagated specially for removal to the flower garden.

The Arboretum.

This adjoins the flower garden, and is somewhat larger in extent; not very showy, being composed of an abundance of green grass, and quite a thrifty lot of trees, scattered frequently without order over the enclosure. It is not strictly an arboretum, for it is not complete, although containing a large list of varieties. It is more favorably considered as a pretty pleasure ground. We do not remember seeing in it even the Purple Peach, and very few of the weeping trees. Many of the latest and most novel cut-leaved sorts have found their way

thither. It needs modernizing and progressive planting to keep up with the spirit of the age.

In one corner is a perfect wilderness of maples, ginkgo trees, poplars and spruces. There are excellent specimens of the Variegated Althea, the *Juniperus rigida*, small specimens, but with deeply pendent habit and feathery sprays, highly ornamental. The *Cercis Canadensis*, or Judas Tree, furnishes a good specimen, 40 feet in circumference of branches. The Camperdown Elm is a very fine specimen, though not large; low, 20 feet in diameter, though not over eight feet high. There are fine specimens of the Liquid Amber, with denser heads than we have ever seen before. Why is not this more generally grown as a lawn tree? By training the branches low, we believe it would form heads of exceeding symmetry and grace. When the autumn frosts come, it would be the most gloriously brilliant tree of the lawn. In this arboretum are 29 varieties of pines, with specimens of the California Big Tree, *Sequoia*, the Cedar of Lebanon, and in all a full hundred of conifers.

There are various nurseries connected with the gardens, in one of which there are 20,000 plants growing, which will be set out in adjacent parks. There are often as many as 35 gardeners employed on the grounds, earning an average of \$2 per day.

Connected with these grounds is the botanic hall, a red brick building with high steps. It is 35 feet wide, with a depth of 70 feet. Upon the floor is a beautifully tessellated pavement, and overhead a frescoed ceiling of artistic colors. Magnolias, palm trees, oleanders, morning glories, pines and their cones, lilies, apples, cotton flowers, tobacco plants, with different fruits, flowers and plants of the tropics and temperate zones, are woven into graceful garlands in the ceiling surrounding the skylight. It is hardly possible to tell all the treasures kept within these walls. Specimens of natural history, seeds of all kinds of vegetables and grain, bottled and arranged together, pine cones of all sizes, papyrus, feather flower, silk from worms fed on lettuce and mulberry leaves, the lettuce showing much the best in color, tea from Paraguay, the

Sponge plant, fibre of the palm tree, Angora wool, Egyptian wheat, cotton from Greece, Sea Island cotton, and an immense collection of birds and stuffed animals. It is a round of great practical interest, and instructive to every visitor.

Close at hand is the residence of Mr. Shaw, wherein all are welcome, and here is kept the record of all visitors, many of them famous. Just beyond is the now justly popular Tower Grove Park of 70 acres, a gift from Mr. Shaw to the city, already beautifully planted and kept. On our return from his house we pass the splendid octagon mausoleum, designed for his final resting place, built of hewn stone, with eight arches, hung over with trees which cast a deep shade. We trust it will be long ere it opens to receive him. Close by is another tombstone, raised as a tribute of respect to a gardener, esteemed for his devotion to horticulture, bearing this inscription:

TO THE MEMORY OF

THOMAS NUTTALL,

Born in England, 1786; died Sept. 1, 1869.

Honor to him, the zealous and successful naturalist, the father of Western American botany, the worthy compeer of Barton, Michaux, Hooker, Torrey and Gray.

Within the past year Mr. Shaw has rebuilt his conservatory on a much larger scale. It is now 210 feet in length, almost as long as the great palm house at Kew, that cost \$35,000; and doubtless he will continue to spend more in improvements. This garden has cost Mr. Shaw over 20 years' work, and \$20,000 a year. It has been wisely expended, for to the citizens of the city and State the beautiful sight has always been open "without money and without price." And now it has been devised to the city forever; yet it has added to the value of his own surrounding acres far more than the garden cost. In addition to this handsome bequest of gardens and parks, covering an area of 200 acres, worth at least \$200,000, Mr. Shaw has made sufficient provision in his will to keep them up as a blooming Eden through all coming generations. Well may we say: *Generations shall do him honor, and garden glories yet to bloom shall waft sweet perfumes to keep his memory dear.*

The Greenhouse.

Gossip about Greenhouse Plants, etc.

From discussions of Massachusetts Horticultural Society during 1874.

***Amargyllis*.**—Mr. C. M. Hovey said they were a tribe of plants which should be better known to the flower-loving public. They are easily cultivated when one knows what they require. The secret is in *properly drying off the bulbs after flowering*. They cannot be prevented from flowering; amateurs should procure good bulbs, and put them in a temperature of from 60° to 65°, and then remove them to a colder house as they come into bloom. They should be potted from month to month so as to have a succession of bloom. Later, about June, they may be planted in the open ground; after blooming, the flower stems should be cut off, then the plants should be watered until they show signs of ceasing to grow, and then dried off gradually.

John B. Moore said that the secret of growing good flowers is first to secure good foliage. The bulb which he exhibited was grown in a pot until it showed signs of drying. It was then allowed to become dormant, and when signs of starting appeared, was grown in a warm place. The bulb was strengthened by growing so long in the pot.

***Imantophyllum miniatum*.**—Mr. Atkinson, who exhibited a fine bulb of this, said that without good foliage it was impossible to have good flowers. This plant is a good feeder, and if allowed would soon fill a 3-foot tub with its roots. His treatment is to deluge the plant with water early in the summer, and afterwards to place it where it will have three or four hours sun in the day. It is as easy to produce a hundred spikes of flowers as five. It is necessary to starve the plants for about six weeks in autumn in order to force them to produce flower buds.

***Dendrochilum glumacheum*.**—This beautiful orchid was exhibited by E. S.

Rand, Jr., who gave the following description: It is a native of the Phillippine Islands, whence it was brought 10 or 15 years ago. The plant exhibited is one, and the largest one, of only two in the country. The specific name is derived from the resemblance of the spikes of flowers to the awns of wheat. The flowers are not showy but very delicate, drooping gracefully from the extremity of a slender, curved, stalk, and are delightfully fragrant. Many orchids are rendered comparatively unsightly by shedding their leaves before blooming, but this is both evergreen and ever-blooming. The flowers last very long, and are very valuable for bouquets, wreaths, etc. The sheaths of the leaves are delicately tinged with red. The plant is of easy culture in a mixture of fibrous peat and moss. The best location is in the hothouse, but it may be grown very successfully with roses. The plant is propagated by division of the pseudo-bulbs, and is of very rapid growth. Unlike many other orchids in which it is difficult to produce "back breaks," the plant is of symmetrical form.

***Lycaste Skinneri*,** also exhibited by Mr. Rand, was stated to have been introduced from *Guatemala* about 1836. It is a coral orchid of the easiest culture, and can be grown in the greenhouse. Its flowers, which are large and strong, are produced at all seasons, but mostly from January to April. There are many varieties of this species, from the purest white to the deepest purple. It is an admirable house plant, and can be grown in perfection in any room not heated by a furnace, where the air can be kept sufficiently moist, but unlike other species, such as *L. aromatica*, the flowers are unfortunately destitute of fragrance.

***Peristeria elata*, or *Holy Ghost Flower*.**—Mr. Hovey had been unsuccessful in flowering it until an English gardener told him the bulb must be almost dried up, and by withholding water for two months, and keeping in the hot sun, it was induced to flower freely. Mr. Barker says the only secret is to give it a good rest.

Liquid Manure—Temperature for Orchid Houses.—Mr. Rand had found the *Bletias* and *Zygopetalums* benefited by liquid manure; a temperature of 60° at night was the maximum for East Indian Orchids, while 50° was sufficient for the Mexican species.

Orchid Culture.—Mr. Rand said that there had been a great deal of needless mystery about orchid culture, owing perhaps to their singular growth and the weird grotesque forms of the flowers. The secret is perfect drainage, keeping the plants clean, never letting the thermometer fall below 60° for East Indian kinds, and 45° for “cool orchids”—keeping free from insects, shade, and a good season of rest. These rules are, however, general, and must be somewhat varied for special cases. Mr. Hovey added that there should be four inches of drainage and plenty of water.

Cactogyne cristata.—Mr. Rand spoke of this plant on exhibition. It is one of the most valuable species for general cultivation by gardeners. It is not a new idea to grow it for cut flowers—Mr. Such and Mr. Menand having grown it for this purpose for many years, the spikes selling for from two to three dollars each. It should be grown in sandy loam and have plenty of water. It is easily propagated by division of the pseudo bulbs, and flowers in profusion. The plants are yet somewhat scarce in this country. Mr. Such has a large plant two feet in diameter. One grower in England has a house 100 feet long filled with these plants, which are used for cutting. The flower keeps from two to five weeks, and can be commended as a valuable plant for gardeners.

Dendrobium nobile.—Jas. Cartwright, who exhibited an uncommonly vigorous plant of *Dendrobium Nobile*, said it was grown in the shade among roses. It had an abundant shower bath four or five times a day, which was the whole secret of its vigor. It was kept growing till October. If it had been dried off in August, the flowers would have been much more abundant.

Azalea mollis.—A small plant and flower of this was presented by Marshall P. Wilder. It is a new Japan species, imported only a few months since from M. Van Houtte, who raised it from seed sent him from Japan, and who says that it is perfectly hardy. The flowers are as large as those of the *Rhododendron*, and borne in clusters from six to eight inches in diameter, and are of a nankeen color, spotted with orange. Mr. Wilder's plant produced a cluster of ten flowers. It is hoped it will prove a hardy and valuable acquisition.

Vanda tricolor.—Mr. Rand showed a flower from a plant which had 39 expanded flowers. The fragrance is so powerful that a single flower will scent a room.

Dendrobium Japonicum.—One of the hardiest of orchids. The flowers are a dazzling white, lasting three or four weeks, and are deliciously fragrant in the evening.

Mr. Gray's Geraniums.—Several gentlemen of the Flower and the Garden Committees, having visited the greenhouse of Wm. Gray, Jr., at Dorchester, brought back enthusiastic reports of the beauty of the plants and the brilliancy of the flowers, being in general effect truly magnificent. There were in the house about 120 plants, in 8 or 9-inch pots, and each one a specimen in itself, all of dwarf habit, short-jointed, and covered with healthy foliage—no yellow leaves or bare stems to be seen. The golden and silver tricolors were grown in smaller pots than usual, and the colors were finely brought out. All the pots were plunged in spent hops, and the temperature by day was allowed to rise to 70° while the sun shone, care being taken to give abundant ventilation, but fell to about 45° at night, affording exactly the conditions under which geraniums thrive best. One variety, the *Bride*, of great purity and beauty, attracted immediate attention, and the *E. S. Dodwell*, *Master Christine*, *Polly King*, *Madame Werle*, *Mons. Eugène Berenzod* and *Delight* were admirable.

For foliage, the *Earl of Roslin*, *Reine Victoria*, *Emperor of Brazil* and *Marshal McMahon*, among the bronzes, were extremely

fine. The *Crystal Palace Gem* for bedding is unsurpassed. *Mrs. Clutton* and *Mabel Morris* were still favorites. As a general rule, the committee thought the bronzes, as well as the gold and silver tricolors, were more valuable for indoor planting than for bedding out.

Violets.—Several fine specimens of the *Marie Louise* were exhibited, and the opinions of members called for concerning it. Mr. Hovey said that for multiplicity of flowers and general commercial purposes, it was not equal to the old *Neapolitan*.

Denys Zirngiebel said that the *Marie Louise* bloomed pretty well until the first of January, and in February ceased altogether, when the old *Neapolitan* was at its prime.

C. B. Gardener says that with him the *Marie Louise* flowers earlier than the *Neapolitan*, hence the dealers are willing to pay more for it.

Mr. Hovey said that it was of a little darker color than the other. He thought it might do better in frames than in the house. The *Neapolitan* has long stems, standing up well, so as to be easily gathered, while the *Marie Louise* lays down. The latter is also subject to red spider. Mr. Hovey also said he was the first to cultivate the new variety "*Czar*" here. It will not do in our warm climate. It runs to foliage too much, and he has condemned it, except as a garden variety, where it flowers late in the autumn.

Mr. Zirngiebel cultivates the *Czar* in cold frames. It is of fine color, and he considers it a valuable variety. It is very prolific in frames.

Lily of the Valley.—A. P. Calder, who had been remarkably successful in forcing the *Lily of the Valley*, was called upon to give his method. He said that he commenced to force this flower because he found it necessary in making up work at the store. It has been considered very difficult to force. There are two very important points—plenty of bottom heat and plenty of moisture. After the flower has formed, the plants must be kept very cool, and have no water. No water must touch the leaf or flower after the flowers have two-thirds

developed. Too much water rots not only the flower stems, but the leaves. He sold 200 selected clumps to a gentleman who allowed them to get dry, and they grew only two inches high.

Soil.—In answer to the inquiry as to the soil used, he said that it was not particularly prepared. He took common loam from the field. It requires a very strong bottom heat to start it; afterwards it is easily grown. He has five pipes under the bench, which give a strong bottom heat. His plants are placed in boxes. Clumps from the same box, without bottom heat, did not grow at all.

Varieties.—Mr. Rand, in answer to an inquiry concerning the rose-colored variety, said that he had six or eight kinds, and as far as regards flowers, the common is the best of all. The so-called rose-colored variety is a dirty pink. Some of the variegated foliaged kinds, especially the golden variegated, are valuable.

Shade.—In answer to the question whether the *Lily of the Valley* succeeds best in the sun or shade, Mr. Calder said that out doors it grows in the sun, and indoors his best plants are in a stove house with 17 pipes, and exposed to the hottest sun.

Soil.—The only soil used, other than what came on the clumps, was a little in the box and between the clumps. It is not necessary to put in soil. The object of withholding water is to keep the blooms clean and white; the smallest quantity of water spots them. He does not give them a particle of liquid manure.

Amargyllis.—Mr. Putnam said that his mode of cultivating *amargyllis* differed from other growers who had spoken. He does not let them dry up, but waters continuously, and thinks his seedlings flower sooner under this treatment. He believes they can be cultivated out doors. If inclined to dry up, let them. He keeps his old bulbs growing all the time, and they increase in size.

Canna Seed.—I noticed, some time ago, an inquiry by a lady as to the most successful mode of germinating *canna* seed. Having

subsequently received seed of the new canna *Marechal Valliant* (it having the reputation of being the most ornamental variety of that family), we thought we would germinate it with more success than we usually had. Having previously tried it in the various ways approved by scientific seed growers, I found the following method to be the most reliable: Prepare the soil in boxes, pans, etc.; sow therein your seed a half inch deep, and place in a low temperature. Keep very wet with cold water, and in this situation remain for three days. Keep them cool and wet all the time. The seed being now thoroughly saturated with cold water and other substances contained in soil, remove the box or pans to a dark, warm place, where the temperature will average 70 or 75 degrees, and keep the soil humid and moist. The sudden change from cold to heat will have a great germinating influence on the seed; the hard shell will soften, and the seed will sprout rapidly. You ask, perhaps, why not soak the seed in cold water for a period before sowing? Wet soil, that has been exposed to the weather, is to be preferred, as the ammoniac substances of the soil have a softening influence.

SUBURBAN GARDENER.

Lycopodium denticulata (or *Kraussiana*) is used in immense quantities around London for decorative purposes, one florist there purchasing annually about \$3,500 worth.

Rafflesia Arnoldi.—Dr. Arnold, the discoverer of this flower, says: "To tell the truth, had I been alone, and had there been no witnesses, I think I should have been fearful of mentioning the dimensions of this flower, so much does it exceed every flower I have ever seen or heard of. It measured a full yard across, the petals, five in number, which were subrotund, being 12 inches from the base to the apex, and it being about a foot from the insertion of one petal to the opposite one. The nectarium (or central cup), in the opinion of us all, would hold 12 pints, and the weight of this prodigy we calculated to be 12 pounds. The whole of the flower is of very thick substance, and has the smell of tainted beef."

Double Poinsettia.—Robert Buist tells the *Gardener's Chronicle*, that he believes this plant can be readily flowered 20 inches across and 12 inches high. "Such a crimson crown has not been found in all the realms of plant growing." He has seen specimens 13 inches across and nine inches high.

Rose Madame Triflé.—My plant of *Madame Triflé* has the appearance of being a well-favored seedling of that "perfection of a rose," *Gloire de Dijon*. It blooms very constantly—well, perhaps more regularly than *Gloire de Dijon* itself. The blossoms are of a far more delicate yellow-tinted white—that is, at a distance they appear whiter, and are consequently more showy, a delicate—beautifully delicate—creamy yellow being just discernible upon closer inspection. The half-opened buds are very beautiful. The full-blown blossoms are globular in shape, seldom expanding fully to expose the center.—*The Florist*.

New Strain of Amaryllis.—The varieties of *Amaryllis* raised from *A. pardina* are likely to form the most useful race of all. They flower very freely, which is not the case with the older and better known forms; and, better still, they flower freely in winter and early spring.—*The Garden*.

Red Spider.—Amateurs, who are troubled with red spider upon their Fuchsias, and wonder, without satisfaction, as to the causes of the dropping of the leaves, will find some consolation in this advice of the *American Farmer*: If they would look on the outside of the leaves carefully, when the first sign of distress is noticed, they might discover the cause in the shape of almost infinitesimal insects called red spiders, which suck the juices entirely out of the leaves of plants upon which they are allowed to remain. They increase very fast in a high, dry atmosphere. The remedy is clear water, forcibly applied to the foliage, more particularly the under sides, as often as necessary. Syringe plants freely in the morning before the sun shines upon them, and in the evening after the sun has gone off of them. Clear water and the syringe are great aids in floriculture.

The Pleasure Ground.

Iron Clad Evergreens.

BY B. A. MATHEWS.

FOR many years our pomologists have been throwing together their experience at their different meetings and through the press, in regard to fruits and fruit-raising in the Northwest. Lists of "iron clad" varieties have been agreed upon and published for the information of the people. These are now so well known, that few persons plant varieties not adapted to our peculiar climate.

Is it not time now that a list of "iron clad" evergreens should be agreed upon? We know many have failed within the last quarter of a century—some to a greater extent than others. Many perhaps had better be discarded entirely. But probably the great point is, how many should be retained!

It is decidedly discouraging to cultivate our evergreens for five or ten years and then have them fail us. Do the people not wish to know before planting them, that they will not act in this way?

I think it is not practicable to grow in the Northwest the Deodar Cedar, Cedar of Lebanon, Cryptomeria, Corsican Pine, Halapensis, Lawson's Cypress and Golden Arbor Vitæ. Thuiopsis Borealis also, has died out here. Others again, like Balsam Fir, White Pine, American and Siberian Arbor Vitæ and Norway Spruce have been considered hardy, but of late years have not been giving, by any means, complete satisfaction. Balsam Fir I fear, will have to be planted more sparingly hereafter, as it is prone to die out at all ages. And we cannot say that there is not far too much risk with American and Siberian Arbor Vitæ, Norway Spruce, White Pine and Juniperus communis. Hemlock, Red Cedar and Scotch Pine seem to fare better. Indeed the latter, together with the American Black Spruce, might almost be classed as iron clad.

The following kinds I have never known to sustain injury from the severities of our

winters: Abies Ceruba or Blue Spruce, Austrian Pine, Russian Pine and Pinus Montana.

I should like to hear from others as to whether the above list is reliable generally in the Northwest, also what additional kinds can be added to it.

My desire in this matter is simply to elicit facts. The people are becoming imbued with the idea, to some extent, that *evergreens* are tender and uncertain in the Northwest. This holds good with some kinds, not with others. Would it not be better, then, to find out just what ones can be relied on with certainty, and disseminate them only, than allow to exist too great a cause for discouragement in regard to evergreen planting?

Why not do as the Northwestern fruit-growers did after their trees were killed so by wholesale during the winters of 1855-56; compare experience, and *fall back on the iron clads*?

I might add here, that the American Black Spruce has behaved well in this vicinity—better than the European Black Spruce, as the latter becomes discolored too much and loses its foliage to a considerable extent. The natives are also the thriftiest growers.

The White Pine has not succeeded as well as could be desired here for some years, though the damage has been confined almost entirely to trees that have been planted in ornamental grounds, for say not more than five or six years. As this tree gets older, it gets hardier, and when ten or twelve years planted, can be more confidently relied on.

Were I to select a list that would probably give the best satisfaction here, and that at least as nearly so as any list containing as many kinds, would be almost a certain one, it would be about as follows: Austrian, Russian, Scotch and Mountain Pines; Blue, American Black and Hemlock Spruces. In addition to these, the common Red Cedar is also quite reliable—though not always so.

I have known the Hemlock to kill when small, but have seen comparatively little trouble with it when it has once attained some size. Have seldom known a Scotch

Pine to kill out entirely, though occasionally, like the European Larch, it may lose some branches.

The Red Cedar is one of the poorest trees to sell in nursery, as it is usually so much discolored on the south side as to make it unsalable in the spring, although this discoloration works no material damage to the tree and does not remain long.

For some reason or other, I know not why, but the Hemlock is not a popular tree with the people, yet I think it should be planted far more largely than Balsam and some other favorites.

There have been in cultivation hereabout for the past fifteen years, two or three kinds of evergreens from the Rocky Mountains which promise to be altogether reliable.

Shade Trees.

BY J. JAY SMITH, ESQ., PRESIDENT.

[Read before the Germantown Horticultural Society.]

THE question as to what are the three best street trees, and as to trimming in cities and towns, is as interesting as it is broad. It is a curious fact that if we examine the writings of the greatest lovers of trees, we find almost no allusion to the trimming process except in forest culture, because probably they do not approve of mutilating their pets. The art, if there be any such, should consist in trusting much to nature. Begin early with the business, first having a decided design as to what the tree shall become. Remove the branches that are superfluous, or likely to become so, while young, when no injury will result. Take example from the fruit grower, who forms his pear tree into a pyramidal or a fan shape; in short, who plans to have, and does have, just what he desires. If he wishes to spread the limbs on an espalier, he finds no difficulty whatever in doing so. We can treat a street tree in the same manner, but we must know what is required, and give constant attention to the detail as the limbs progress. This, and this only, will prevent the necessity for mutilation when the branches have attained too great height or are too numerous.

Watch and learn the proceedings of an accomplished fruit raiser. Who will do this? it may be asked. It is feared the numbers will be few, but without care of this kind, the rapid-growing specimens will often have to be cut, most probably mangled, disfigured and killed. This society would do a good service by recommending a person with the requisite knowledge, and the probability is, that our fellow citizens would—some of them, at least—employ him. In a few years his results would be an example that would educate others. Trees of quick growth in towns with narrow streets require more or less trimming; it is in vain to disclaim against the “vandals” of the saw and hatchet, till some degree of education is instilled into the masses. It is equally in vain to have handsome, quick-growing trees, such as most persons desire, without some attention. We should rather condemn the owner who neglects his trees, than cast aspersions at the man, however ignorant, who obeys orders, and in whose power it is not to reduce an overgrown specimen without using his rough tools.

What are the three best trees to plant in streets at the North, is a question attended with some difficulty, because, notwithstanding the use, the grandeur and the beauty of timber trees, it is a fact that, compared with herbaceous vegetables, the number of species distributed over the world is comparatively small. The greater part belong to warm climates, for in the temperate zones, and in the regions of warm countries rendered temperate by their elevation, the number of genera of timber trees, according to the best authorities, that attain thirty feet in height, does not amount to a hundred. There are not above a dozen genera of trees, furnishing in all about thirty species, which attain that height, indigenous to Great Britain. Other countries, however, furnish other genera and species from which to select. These we have in considerable varieties. The choice is restricted most painfully when we consider the circumstances we are reduced to in the selection. We cannot properly have fruit or nut bearers, nor even flowering trees, with safety to our

windows or our heads; for there is a species of cureulio, called in Paris a *gamin*, whose great delight is to throw sticks and stones at everything that pleases his fancy or his palate. We must therefore exclude from the usual streets our hickory, our walnut, our horse and native chestnuts, the honey locusts (one of the most graceful of trees), and of course the apple, the pear, the paw-paw, and all fruit-producing trees. Then, again, we are restricted to what will flourish in cities and towns; evergreens will not succeed in smoky regions.

Then, again, consider the conditions which we are subjected to. Our streets are narrow, often only thirty feet wide. The space is insufficient for flourishing trees, and no sickly tree or plant is worth preserving. As well admire a sick monkey or a dying cat as a plant struggling for life between a curb stone on one side, sand, brick and rubbish on the other, and the air and rain excluded from all; and yet, strange to say, we do sometimes see that nature struggles against such unnatural obstacles, and gives us something to like, if not to admire, even though the planter may have failed to dig deep enough, or to supply pabulum for the root. The one tree which resists this confinement best is undoubtedly the silver maple; and if it were treated as I have suggested, and cared for in its rapid progress, it would be the tree for our purpose. As a single specimen on a large lawn, it assumes most of the characteristics we desire, if it has no near neighbor. It wants attention every week during the growing season if we expect good results. It throws up the pavement with its tuft of superficial young roots. The bricks must be removed, and the tuft cut away with an adze or some suitable implement. Properly done, this does not injure the growth materially, the large roots being sufficient, and having penetrated the soil. Therefore, under the conditions named, I do not hesitate to recommend it as one of the three desirable street adornments where a better cannot be expected to grow. But if it is left for years without trimming, and thus is allowed to form tall and large limbs that must be cut away, mutilation in its worst form will result.

The sugar maple, however, should be preferred; and this or the red bud should be another of the three. The beautiful round-headed Norway maple casts too dense a shade for the street.

The magnolias must not be forgotten; the two should be the *cordata* and *macrophylla*, the first producing yellow flowers twice in the season.

I sometimes think I would rather inherit Mr. Magnol's reputation for the name of magnolia, so graceful and tripping, than that of Bonaparte; and then, how his family increases! He never knew he would have heirs called *Soulangeana*, etc.

The yellow wood, *Virgilia lutea*, affords a good variety also, when we consider what we shall select as our second choice. The deciduous cypress becomes in time a beautiful and valuable street tree, while the Chinese cypress, *Glyptostrobus sinensis*, lately introduced, is the most perfect of all pyramidal trees. We must also, by no means, forget the lindens.

And for the third, some of the oaks are to be chosen, while the Kentucky coffee tree, *Gymnocladus Canadensis*, has many valuable characteristics, and should be more frequently planted. And the varieties of the ash are admired by many very justly. The native beech, too, has advocates; while the true copper beech, when to be procured, would form a superb and unexceptionable ornament everywhere, especially in an avenue or on the street. The fern-leaved beech, *Fagus heterophylla*, with conical form, well-defined outline, and deeply cut, close foliage, is superb and rare. The Salisburia, or ginko tree, should be introduced into our public plantings and even streets.

Objection is fairly made to the use, in this region, of the elm, so much admired in Eastern towns, because it is infested with worms; but the variety generally known as slippery elm, *Ulmus fulva*, has no enemies, is equally graceful and valuable, and should be cultivated extensively.

Some varieties of the ash family make good street trees, but after all we are often narrowed down to what we can get. The *Acer*

pseudo-platanus, among the maples, is not so rapid growing as the silver, but more rapid than the Norway or sugar maple. Among the oaks, prefer the macrocarpa, which is a fast grower.

A knowledge of all the different associations which belong to each particular kind of tree, as it must add greatly to the enjoyment derivable from them, ought always to form a part of the pleasure with which trees are viewed. We have a pleasurable sensation of the mind when we pick up a chestnut, the ancestor of which was planted by Washington at Belmont. The association of ideas thus connected with trees has given rise to what is called their moral and historical expression, as the oak for ship building, the pine and fir for house carpentry, and so on. The historical and geographical associations connected with trees are numerous, and of great interest. The platanus reminds us of the respect paid to this tree in Persia; the sweet bay, of its shoots being used by the Romans to crown their warriors; the vine and the olive, of their unknown antiquity, and the highly prized liquors and oil made from their fruits; and the cedar of Lebanon, of the esteem in which its wood was held by Solomon.

That there are difficulties in selecting has already been demonstrated, and when these are all over, comes another. The best trees and the right sizes are not always to be had when wanted. There may be plenty of them, but they are small, possibly, or too large, and they may be very difficult to transplant, as the holly and many others are. Most persons don't want to be bothered, nor do they desire to plant twice or three times, and they, forsooth, content themselves with what is on hand; it is very apt to be the silver maple. As our country gets older, and we have more extensive nurseries, like Loddiges' in England, one can go thither and find exactly what is wanted, and in every stage of growth. It is not yet so in America.

The subject has been considered in one aspect only. What are the best trees for streets embraces a wider range as streets become wider, and enlarge into avenues of eighty or

one hundred feet in width. Then our list for planting in good soil, unobstructed by curb stones and bricks, is immensely enlarged; and we can recommend the oaks, and hickories, too, perhaps the tulip poplar and many others; but confining the subject to the usual plan of streets as exhibited here, the range for selection is rather limited. In most instances it is well to get a guarantee from the nurseryman that his plants have been twice transplanted, otherwise there is a risk of some deaths. With twice transplanted trees there is little to apprehend with careful attention.

Avenue Planting.—For avenue planting, those two near relatives, the cucumber tree (*Magnolia acuminata*) and the tulip tree (*Liriodendron tulipifera*), combine many excellent qualities. They are rapid growers, beautiful in foliage or flower, of perfect form; hardy, excepting in the extreme North, not particular about soil or situation, and comparatively free from insects and diseases. They are readily grown from seeds, gathered and sown at once in the autumn, or, as some prefer, preserved moist until spring. When two years old, they are generally sufficiently large to plant out with a protection, or if intended for the street, they may be cultivated in nursery rows for three or four years, until they are tall enough to be beyond the reach of animals. A long line of either of these trees forms a magnificent sight when in bloom, and for shade, combined with beauty, will satisfy the most fastidious. One of the greatest mistakes in street planting is the selection of an improper kind—for instance, a first-class tree, such as we have named, for a narrow street, and a small, slow-growing species for a wide avenue. Each are equally out of place, and never look appropriate, no matter how handsome the individual specimens may be.—*N. Y. Tribune.*

Roman Hyacinths are among the newly imported plants displayed in greenhouses. They are natives of France, are both white and blue, and very fragrant.

The Flower Garden.

Queries about Roses, Evergreens, Shrubs and Plants.

EDITOR HORTICULTURIST:—We would like to know a list of ten best roses for outdoor culture here. Our winters are severe enough to kill the Queen of Prairie and English Moss, so we do not expect to grow any good roses without protection. What we wish is ten or a dozen sorts that we may reasonably expect success with if protected. We have Madam Plantier (white), and consider it one of the finest. We cannot see why the Baltimore Belle is considered worthy of culture, if others succeed no better than we have. We get only a moderate bloom of dingy color. We have had fair success with the Washington Rose, but it is not equal in bush to some others.

We would like to know ten best varieties of evergreens for nursery culture here. Would Chinese Arbor Vitæ prove hardy here? We should expect the Siberian to be hardy, the name would indicate so at least. We have had good success with Balsam Fir, Norway Spruce, American Arbor Vitæ, etc. We learn that Irish Juniper is not hardy here—makes too late a growth each season.

We have tried Japan Lilies three or four times. Have not succeeded well in open ground culture except with Rubrum, and only moderately with that. We wish some good hardy plants sure to succeed as well as Dicentra and Bee Larkspur. Are there none of the finer lilies we can grow with satisfaction? If the Japan Lilies are as hardy and good growers as the Tiger Lily, we would be satisfied.

We have good success with Snow Ball, Lilaes, etc., but our Pyrus Japonica, Weigelia, Roses, and Flowering Almond winter kills unless protected. What hardy flowering shrub shall we try next? Will some one who knows please inform us through THE HORTICULTURIST? A. L. HATCH.

Ithaca, Richland Co., Wis.

Edgings for Garden Walks.

SOME capital suggestions on this topic are made in the last issue of Briggs & Bros. Quarterly. "It is generally desirable that we should preserve the shape of our flower beds and borders from year to year, so that the plants shall not interfere with the walks. Where flower beds are cut out in the turf on the lawn, an edging with the spade is all that is necessary to keep them in shape for all time. It has been the custom for years, to use a dwarf-growing box for edgings; still this is used only by a few, and as it does not flower, there are many who would prefer to use flowering plants for this purpose.

The *double-flowering Sweet Violet* is a capital plant for edgings to beds, borders and walks. The best time to plant them is in the spring, when the beds are spaded up and got into shape for the season. Draw a line where it is desirable to form the edging, and after separating the plants into small pieces, plant them firmly about six inches apart, along after the line. In a short time they will present an unbroken line or edge, and the next season they will give an abundance of their acceptable, fragrant flowers.

The *Double Russian* is the variety best adapted for this purpose. The annuals and other flowering plants can be planted quite close to the Violets, as some shade will be found to be beneficial to them.

The *Double Daisy* makes one of the best of floral edgings, and should be planted quite thickly for fine effect. We have seen edgings of this pretty and popular flower that were vastly superior to anything else in the line of edgings.

The *Sedums Sieboldi* and *variegatum* are excellent, used for this purpose, being both perfectly hardy, besides standing perfectly well through the hottest summers, becoming denser each succeeding year, as well as being loaded with rosy purple flowers in the autumn. The dwarf, *fine growing* varieties of *Semprevivum* (*Live-for-ever*), called moss by many, may be used with capital effect and results, and will please all who try them for this purpose. For edgings to walks and beds in

the kitchen garden, there is nothing to equal or compare with the *double-curved Parsley*, and as this can be procured cheaply and with so little trouble, as well as being of service in the kitchen, we advise all who care for trimness and neatness in their garden walks to give this a trial the present season.

To Destroy Rose Slugs.—The question how to get rid of these pests, is satisfactorily settled by a correspondent of *The Country Gentleman*, who writes as follows: An old lady, whose roses were better than the average of the season, said the only way was to pick the slugs off and burn them; that she spent all the mornings in attending to them, and had that season burned bushels of leaves that were covered *on the under side* with the growing slugs. I excused myself from the task, and tried hellebore, Paris green and various things with indifferent success; but have found nothing that will so thoroughly destroy rose slugs, as wood ashes. The ashes must be sifted on early in the morning, while the leaves are damp, the branches being turned over carefully, so that the under sides of the leaves, to which the young slugs cling, may get their share of the siftings. If the night has been dewless, in order to make the work thorough, first sprinkle the bushes, and the ashes will then cling to the slugs, to their utter destruction. This may be repeated without injury to the roses as often as the pests make their appearance.

Clematis Jackmannii.—This has found its way into the grounds of a Georgia gardener, who describes it when in full bloom. The vine is so densely covered with violet purple flowers, that its dark green leaves can scarcely be seen.

Clanthus magnificus.—Those of our readers who have seen the singularly beautiful flowers of the Glory Pea, *Clanthus Dampieri*, will be very desirous to possess this newer variety, which seems to be of a more hardy character, and less liable to be infested with the red spider and other insect pests. It is described in *The Gardener* as being a

truly magnificent, and really charming variety. The flowers are large, of a deep, rich scarlet color, but without the black boss which makes the blooms of the *C. dampieri* so attractive. They are produced in immense pendulous bunches, and continue in perfection a long time. The plant is of easy culture and rapid growth, requiring abundance of root room, but by no means particular as to soil, thriving in such a compost as is used for Pelargoniums or Fuchsias. A plant, covering a large part of the back wall of a lean-to greenhouse, has been densely covered for the last three weeks, with hundreds of bunches of its large, rich, and singular flowers.

Color Arrangement.—A few simple rules in the arrangement of flower beds will materially enhance the effect produced. Among these are:—

1. Avoid placing rose-colored next to scarlet, orange, or violet.
2. Do not place orange next to yellow, or blue next to violet.
3. White relieves any color, but do not place it next to yellow.
4. Orange goes well with blue, and yellow with violet.
5. Rose color and purple always go well together.

Hardy Herbaceous Annuals.—The *Agriculturist* remarks that those of this class, with variegated foliage, are rare. None that we have seen equals the variegated Comfrey, *Symphytum peregrinum*. It is bright and pleasing from early spring until late autumn, and never shows any signs of deterioration.

Ornamental Gourds.—Two of the very best are thus recommended by *The Rural New Yorker*: "*Momardica balsamina* and *Byronopsis erythrocarpa*. The latter is certainly the most delicate and aristocratic little gourd in existence."

Supports for Climbers.—We have standing in flower beds on our lawn, two rustic supports for flowering vines, roses and the like, that are so pretty, cheap, easily made, and efficient, that I thought some of your many readers might, perhaps, like to make something of the kind for themselves. Ours

are made of red cedar bean poles, ten or twelve feet long, simply nailed together where they cross each other. Very likely they may be made different from either of these, and be equally pretty. They look well on a lawn in winter, when, of course, they are naked; but when clothed with brilliant flowers in summer, they are beautiful.—*Country Gent.*

Soot as a Garden Fertilizer.—Perhaps it may never have occurred to some of our fair lady readers, that the refuse soot of their chimnies is one of the most valuable stimulants and fertilizers they can have for their garden flowers. The following incident of practical experience is from a lady contributor to *The Rural Carolinian*: During two seasons we nursed, fed and petted a Hartford Prolific grape-vine—as much for its shade over a window as for its fruit—but it persisted in remaining a stunted cane, yellow, and refusing to climb. At the window, on the other side of the door, we had a stunted rose-bush, also yellow and refusing to climb. Despairing of shade, grapes and roses, we finally bethought ourselves of soot as a manure, and forthwith made a “soot tea” by steeping a tea-cup of soot in a quart of water. This we administered, two doses each, to both the tree and the vine. The vine grew six feet in height in the space of six weeks, the rose-bush four feet in the same length of time—both thereafter rejoicing in raiment of living green.

Culture of Fuchsias.—To grow the fuchsia to perfection, Mr. H. E. Chitty says a light, rich soil is necessary. Splendid plants may be grown in one season from young, soft shoots put in sand, as cuttings, and rooted in December and January; when rooted, the young plants should be placed in small pots, which should be replaced by larger ones from time to time, as the pots become filled with roots, until they are in pots five or six inches in diameter, in which size yearling plants will flower to perfection until late in fall, at which time water should gradually be withheld, and the plants brought into a dormant condition, when they may be placed in a dry, cool cellar for the winter. These same plants will flower

still better the second year, if the side branches and tops are slightly pruned, the plants repotted into fresh earth, and occasionally treated to a little weak liquid manure through the season of flowering.

Arranging Bouquets.—*Snow-drops with Moss.*—A lady correspondent of the *Rural New Yorker* recommends the following way to arrange snow-drops with moss:

Place a vase or goblet on a plate, and fill the plate with the most luxuriant pieces of moss, taking care to remove the brown, dry litter, and hide the roots. Do not pluck any odd little leaves or grasses that may be growing in the moss. Place small clusters of snow-drops—with occasionally a little fern—here and there, on the plate, with stems tucked under the moss. If you should be so fortunate as to find five or six of the small scarlet fungi, do not fail to let them peep from the most effective nooks. Fill the goblet with snow-drops and ferns. Unless one possesses considerable taste in the arrangement of colors, I do not think it is best to mix many different hues together in one vase. A few colors that contrast well often give more satisfaction.

Early Saxifrage.—This late spring has caused us to welcome with peculiar warmth the early flowers, and one which we have never before appreciated is now in such favor, that I would recommend it for the enjoyment of others—*Saxifraga Virginienis*, *Early Saxifrage*. Two weeks since I brought in to the house and placed in a saucer a little turf of this plant peeled from the rock, and have kept it supplied with water. It was then just bursting into flowers. Now, there are thirty stems six inches or more high, with large clusters of snowy flowers, and it bids to last another fortnight.

It is much finer than I have ever seen it on its native rocks, and as a living bouquet I have rarely seen it surpassed. I commend it to lovers of flowers.

Yours truly,

T. S. GOLD.

At a recent auction of a collection of orchids some plants of the *Aerides Shroderi* and of *Dendrobium Falconeri* sold for \$60 each.

Gardening.

What's in a Name!

BY A. L. HATCH, ITHACA, WIS.

EDITOR HORTICULTURIST: What's in a name! How much of quality, of beauty, nay, of real elegance, a name is capable of expressing! How prone horticulturists and florists to the use of the superlative and superlative in naming their pets! Only think of the "gems," "pearls," "rubies," "fairies," "queens," "beauties," "triumphs," "delights," "colossals," "mammoth," "giants," "spangles," "sparkles," "grands," "nobles," "elegants" and "glories" presented in almost any good-sized floral catalogue. He must have the heart of Pharaoh who cannot, when reading these names, have his soul filled with enthusiasm, and overflow with ecstasy, as he contemplates the vast amount of wonderful beauty hid in embryo plants and seeds. How expressive, how appropriate, how practical a name may be! If we seek for elegance, tenderness and delicacy, we find it in the gentler appellations of the feminine, such as "white lady," "May queen," "ladies' jewel," "lady of the sea," "seven sisters," "little Minnie," "the bride," "princess," "the belle," "Miss Ida," "Clara's gem," etc. In seeking the grand, stately, majestic or noble, we find them in such names as "the victor," "prince royal," "General Lee," "Lord Derby," "king of scarlets," "lion heart" and "Socrates."

Shades, colors, tints and markings, together with size and qualities, are appropriately expressed in names of fruits or flowers, and names are the most practical when they indicate most clearly these features, and at the same time are samples of brevity and simplicity. We can hardly mistake the colors of flowers when named "purple gem," "rosy morn," "cloth of gold," "le nankin," "silver queen," "bridal wreath," "blue bird," "pink beauty," or "scarlet queen," "variegated," "striped," "spangled," "spotted," "zebra," all express markings in unmistakable terms;

and should we procure plants bearing these names, we should expect "star-spangled" flowers of uncertain streaks and stripings.

Our "darkness" and "Sambo" verbenas, our "black prince," "midnight" and "sable" flowers we should expect to assume the darkest shades.

Origin, productiveness, season and habits of growth may also be shown in names of fruits, as "Rhode Island Greening," "Jersey Blue," "Russell's Prolific," "Old Mixon Freestone," "New York Pippin," "Christmas Apple," "Autumn Strawberry," "Summer Queen," "Cluster Seedling," "Mammoth Cluster," etc.

Names are of great commercial importance in the sale of new plants and trees. All nurserymen are aware of this fact, and are willing to make their articles attractive to purchasers by the use of attractive, euphonious or startling names. Western tree-sellers know the superiority, in a commercial sense, of "Russian Crab" over "Tetofsky." No doubt more or less of caprice enters into such singular names as "Honest John," "Stump the World," "Sheepnose," etc.

Again we ask, what's in a name? Is there not more of utility and beauty, more of fancy and information than most comprehend? Surely it was a vast task that Adam performed when he named the beasts of the field and the fowls of the air.

Mulching.

FOR a general mulch there is nothing equal to the soil itself. A thorough pulverization of the surface is the same as a coat of saw-dust, cut straw, or any similar fine application. There is some fertility, it is true, in these latter; but then there is some enrichment secured also by working the soil, the labor in the two being about equal, though the latter can be increased; but then its benefit from increased fertility will balance and more than balance this.

Our corn fields, therefore, are mulched to advantage by the use of the cultivator. Whether it would pay when this ceases, to apply a special mulch is a question. It will

with potatoes. The mulch, if a thick one, will keep moist, will prevent weeds and the crusting of the surface, thus giving access to air, which it is now understood is a benefit. Besides, it will keep the ground cool—what the potato wants.

The best mulch for this, as well as for shrubs and young trees of all kinds, is one of green grass or weeds, applied immediately after the last stirring of the soil, and sprinkled well with leached ashes. The ashes will draw moisture from the air and protect the green coat which in turn will protect the soil below. This, also, will add fertility. We have used it for several years with the most gratifying results. The severest drouth has but little effect; there is a fine growth, seeming in defiance of the weather. We also apply it to grapes, and with benefit.

This for summer mulching. For winter there needs equal protection. Grass must have itself or the snow to protect it. A good aftermath or well drained soil is sure to do this. It will lessen the leaving; and there will be considerable fertility, furnished by the plant itself, which is not lost, but goes at once to form pabulum for the roots, the plant thus reproducing itself, being an addition to the usual growth where the ground is fed close.

Straw is a good mulch for winter wheat. In some parts it is a rule to apply it. You protect the strawberry by evergreen boughs, the best protection, among the many, that can be applied. It prevents smothering, and it keeps off the cold. The roots of grape-vines, shrubs and small trees should be covered with leaves held down by a little soil. It will lessen the frost both in intensity and in depth. The winter of 1871-72 was a test. Besides, the leaves will add manure in the spring, and of the right kind.—*Cor. Utica Herald.*

The Best Deciduous Hedge Plant.

Discussion at Rochester.

MESSRS. Maxwell, Barry, Ellwanger and Graves all agreed in naming the Honey Locust as the best.

Mr. Chas. Downing has seen old hedges of it a complete failure.

Mr. Smith has a Honey Locust hedge about 100 rods long, which has stood sixteen years, and is nearly perfect. Never knew a plant to die from effects of insects. Honey Locust is the only deciduous hedge he would recommend.

Mr. Graves knew a Honey Locust hedge, from fifteen to twenty years old, the most perfect hedge he ever saw.

Dr. Beadle considered it a nuisance, so small a portion of the year in leaf, and if a root was broken would sprout.

Mr. Smith had never known them to sprout. It was agreed that Osage Orange would winter-kill, even when several inches in diameter.

Mr. Patrick Barry has seen very fine hedges of Japan Quince.

Mr. Hooker—Probably only objection, slow growth.

Mr. Downing said the Berberry, as far as tested, was a promising hedge plant, but more time was needed to decide fully.

Dr. Beadle—Mice will not eat it.

Dr. Sylvester had one five or six years old, and was satisfied it would make a good hedge.

The following note on hedges was sent to the Society by that venerable and eminent horticulturist, Charles Downing: "I began to cultivate hedges over fifty years ago; have tried the European Thorn, two kinds of native American Thorn, three-thorned Acacia, or Honey Locust, Buckthorn, Sheppardia, Osage Orange, American Arbor Vitæ and Hemlock, and all failed to make a hedge suitable for protection against cattle on the public highway. The Osage Orange would answer the purpose effectually, were it not for an occasional extreme cold winter; Arbor Vitæ and Hemlock make beautiful hedges, and would answer for inside or division fences, where no cattle were allowed to run. No pains were spared to make the above hedges all they should be, but all failed to make a barrier against cattle." The report is the more praiseworthy, and available for ready reference, in consequence of the utter absence of

padding for the sake of show—an objection which attaches to most society publications, particularly those paid for with State or National funds.

Golden-netted Honeysuckle (*Lonicera aurea reticulata*). Mr. T. T. Lyon, in a letter to the *Michigan Farmer*, says that where placed in the open air, and in full influence of the sun, failed, but when transplanted to the north side of the house, it succeeded.

We removed it to the north side of the house, placing it, as before, in a light, loamy soil, with porous subsoil. Here it soon recovered, and showed its appreciation of the change by making growths of eight or ten feet during the season, with foliage as rich and healthy as could be desired, constituting it one of the most beautiful and effective plants in our collection, the more especially as the effect continued through the entire growing season.

The foliage seemed unaffected by frosts, retaining its richness and beauty unscathed till time to go into winter quarters, when, although our previous experience satisfied us of its probable hardiness, we thought to make assurance doubly sure, and dropped it upon the ground, throwing over it some garden litter, and leaving it in this condition till the opening of spring, when, on removing the covering, it came out apparently uninjured, and with a portion of the beautifully netted foliage yet unharmed. We replaced it against the wall, where, during the second summer, it made a very vigorous growth, nearly covering a portion of wall about eight by ten feet.

No one who has only been accustomed to see this plant as grown in the greenhouse, with its roots confined to the narrow limits of a pot, can form an adequate idea of the richness and effectiveness of the plant when grown in the open ground, in the manner indicated. No amount of vigor seems to suffice against the influence of direct sunlight, as we observed that a few of the strongest shoots, when exposed to the direct light of the sun for only an hour or two during the heat of the afternoon, soon showed the scorching effect upon their foliage. It increases rapidly by layers or by

cuttings taken in July or August, and planted in ordinary soil in a moist, shaded locality.

ED. NOTE.—We have the same vine growing for three years in open air, on light, sandy soil, at Dover, Del., exposed without protection to severest suns and freezing cold, and not a leaf has ever been injured. We consider it hardy, and not in the least affected by the heat of the sun.

Pruning Evergreens.—In setting out small Arbor Vitæ and Hemlocks, say those ten to fifteen inches high, I cut back side branches, and leading shoots, one-third, and this can be done very rapidly, by grasping the entire top in one hand, then, with the other shear or cut with one stroke of the pruning knife.

If the plants are smaller, say six to ten inches high, a half dozen or more can be easily taken in hand at one time, and all pruned with one stroke. This cutting back of the tops is very beneficial to young plants from the seed beds, or when gathered from the woods. The roots are always more or less injured, and lessening of the amount of top will often be the means of saving life. In removing larger trees, and of different kinds, such as the spruces and pines, a shortening of the branches will not only assist in saving the life of the plants, but aid in giving them a good, symmetrical form. Evergreens grown in nursery rows are very likely to be distorted in form; the branches on the two sides adjoining the neighboring plants in the row will be much shorter and less in number than on the other two sides; consequently, the shortening of the longer ones gives symmetry and uniformity of appearance.

It is a great mistake to suppose, as many persons do, that evergreens require no pruning. They may not need as much as deciduous trees; still, a little at the time of transplanting, and enough afterwards to keep them in proper shape, is certainly beneficial, if not positively necessary. If trees that have been set in nursery rows or hedges fail to make stocky specimens, the leading shoots should be annually shortened, until the requisite form is secured.—“*Ruralist*” in *Rural New Yorker*.

Fruit Culture.

Fruits in Florida.

BY OLIVER TAYLOR.

THIS morning at sun-up the thermometer marked 48, and corn is in tassel; cucumbers and squashes in use, and yesterday a hail-storm occurred, with hail as large as one's little finger-end; and one night last week it rained as if it were being poured out—such a rain as seldom occurs North, yet before that it was too dry for Irish potatoes to keep alive in this land. This is the climate, too, where some knowing ones, with many years' observation, suppose and imagine, in the face of the experiments of thousands of old cultivators of the soil, that figs can be successfully dried for commerce, and packed fit to eat, without preserving; that the foreign grape can live and produce a paying crop; that peaches can be raised successfully, as well as pineapples, coffee and many other such things. It seems to be impossible to convey to the ignorant how much moisture the air of Florida contains, and what peculiar effect it has upon vegetation. The soil of Florida in many places could not support the growth there is on it, was it not in an atmosphere charged with so much wet. This wetness completely prevents the fig from maturing, so as to make dried figs for commerce. Grapes are so affected by it that they fail to do well, either in growing wood regularly or ripening fruit. Any gardener knows well the foreign grape does not thrive well in an undrained soil, and there are times in Florida when all the soil is loaded with water, and after such times the vines that have borne two or three crops die to the ground. Peaches are so uncertain south of Palatka, that it does not pay to raise them; also apricots and nectarines; and near the coast north the fruit ripens very uneven, and the trees soon die with the roots very knotty. Some had them on the plain to avoid that effect.

There is one orange tree in this town, only four inches high, that came from seed since

Christmas, and it bloomed and set fruit. I went to see it last week, and the fruit was then the size of a pea of small size. Another in the lot bloomed, but did not set fruit. I grew an Oleander from seed last year, that bloomed before it was six months old. I tell these things to show how different plants do in different climes.

Much moisture in the air, and a poor, wet, sandy soil enable many flowers and vegetables to grow flowers well, but fail to produce fruit. This is manifested by the tomato, as the Trophy, if planted from the finest specimens possible, will not have fruit the next year much over one inch through. That vegetables can be grown on the St. John's at Lake Monroe, and shipped North, so as to pay expenses, no one need to hope, as the first cargo or lot sent by the boat is all that pays to ship, and the remainder of the crop is wasted.

I wish to inform Al Fresco that I had my first summer at a spot between Enterprise and Eaton's grove; and I would inform him that the next grove below was thrown out for want of a tenant, and also that some of the largest trees in Eaton's grove have died since then by the rise in the river. I also tried another summer at the settlement of Sand Point, and there tried faithfully to cultivate a large garden on the edge of the noted Turnbull's swamp. I also put in several thousand orange buds in a grove ten miles south of Cape Canaveral, and contemplated purchasing one of Capt. Burnham's groves. I was told, before I went to Indian River, that I would find rich hammock land there, as rich as anywhere else. Such statements are utterly untrue, and their circulation a cruel wrong. One hogshead of sugar per acre cannot as easily be raised in the richest of these hammocks as two can in Louisiana, according to the statements of those persons who have tried both, and then the crop cannot be repeated on the same land in Florida.

Will Al Fresco please remember that the grape he so much recommends does not ripen its crop all on one day or one week, but gradually, and when ripe, they fall off and leave the green ones behind; therefore his process for

gathering will be more troublesome than a cow-milking machine. Cordial and brandy may be made from Scuppernong grapes, but a good wine only at high costs.

Fourth month, 30th. This morning thermometer marks 47 in the shelter of the greenhouse, before sun-up. Mulberries have been ripening two weeks past. I counted 176 specimens on one twig that measured one-third of an inch through the stem. Please ask Al Fresco if his fertile brain can contrive some crop to grow in the garden, so as to enable the good people of Florida to have an abundance of healthy, juicy fruits or vegetables (such as they have North), say from the middle of July till the middle of October. I have worked hard for five summers in four different places, and very sorry do I say it, I find it far more difficult to supply a family with an abundance of fruit and vegetables anywhere in the State, where one can live clear of malaria. I was led to believe, e'er I entered the State, that the extreme frost line was at or near Enterprise, but I find it sometimes reaches to the extreme south end of the State.

Does Al Fresco presume to imply that the good people of Florida are more careless in packing fruit than people in other lands? If so, I think he had better inform them how others pack them; and if 45 per cent. are lost in shipping from Cuba, what per cent. does he suppose waste in going from Florida? Coffee and quinine I hope may never be the product of Florida, and I don't fear they will; and I consider such poisonous things like the too vivid productions of the imaginative brains they often pervert.

ONE WHO HAS FLORIDA ON HIS HANDS.
Apalachicola, March 29, 1874.

The Grape Market in New York.

BY C. W. IDELL.

LONG before grapes are ripe in our section, large quantities are received from some of the Southern States. Virginia sends the most and the best, although Delaware sends a large amount of Concords.

In the vicinity of Charlottesville, Va., they

are grown very extensively. The principal varieties are Hartford Prolific, Concord, Ives Seedling, and Delaware.

Ives Seedling.—The Ives Seedling is very popular in that locality because it is hardy, sticks tight to the stem, and bears handling better than the Hartford or Concord. There is a growing demand for it in our city for shipping purposes, on account of its bearing the heat so well. Their Delawares are very fine, and if the weather is not too hot, carry and keep well. The principal difficulty that we have to contend with in disposing of them is, that our market is so full of perishable fruits when they arrive, that it weakens the demand for them. There are some varieties of fruits that can not be placed on the market too soon, but that is not the case with the grape. The fault is, that they come too soon, for they cannot compete favorably with peaches, pears, or plums, and as these are the prevailing fruits when these Southern grapes arrive, consumers buy them and neglect grapes, knowing they will last long after those other fruits are gone.

Concord.—Among all the varieties that come to our market the Concord is the most popular. Although some speak of it lightly, others with contempt, and some say they pity the taste of those who prefer it to others, yet it is an undeniable fact that it is the grape for the million, and the great mass of consumers buy it in preference to any other.

There are some influences brought to bear on this variety that are worth noting. One is, that it is among the first arrivals, and compares favorably with any of them for quality, and it is received in such quantities that it sells so low that all can buy them. It is a very tender grape and soon spoils, consequently it is often forced on the buyers by accepting low offers in order to dispose of them before they spoil.

There is another point to which I will call your attention:—Being hardy, it can be grown in almost any section of the country, and by most any one—consequently every year new vineyards are brought into bearing, and inexperienced cultivators put their crops

on the market in crude style of packages, and without due selection or proper packing. Thus the market is constantly supplied with grapes that must be sold quickly, and at prices made by the buyer, not the seller, for it is only the choice fruits that he can really hold to secure their value, and the value of this is materially affected by this mass of common quality of fruits. Another point is, that on account of its tenderness, the heat soon spoils it, when it has been handled carelessly; in many instances the juice runs from them in streams on arrival, and if not sold the same day will spoil before the next.

Isabella.—The Isabella is a good grape, and takes the place of the Concord among those who wish a cheap black grape, but it is singular how the demand for this variety will stop all at once, and while there is plenty of them in the market. In order to explain the cause of this stoppage, I would state that among the buyers of these black grapes are a large number of German grocers, Italians who keep stands on the sidewalks, and deal largely in these varieties because they are cheap; also licensed venders, or peddlers, as they are commonly called, who buy them by the load, and drive through the city, and sell them to whom they can. These parties supply all the demand by the poorer class of citizens, until they seem to exhaust the consumers' appetites for grapes, or in other words, are tired of them; consequently this large class of buyers cease to purchase them, and the Catawba having arrived, the better class of consumers take hold of them, and the demand for Isabellas virtually comes to an end, with a few exceptions of out-of-town buyers who sell them to a limited extent.

Delawares.—The Delaware is a very popular grape among the better classes, who admire them for their beauty and sweetness, but it is too small for general use. The Eastern people are our best customers for this variety, and the wine cellars buy it in large quantities to sweeten their other wines.

Dianas.—The Diana is not popular with us, nor is the demand for it very great. It sells better in the Southern cities than it does in our own.

Iona.—The Iona must be well ripened, and present a good appearance to sell well. In fact there has been so few of this variety sent to our market that but few appreciate its excellent qualities. When fully ripened, so that it can reach up among the nineties, it is valued highly, and bought largely by the wine cellars to flavor and mix with other wines.

Catawba.—The Catawba is our principal late grape. They are grown largely in the vicinity of Keuka and Seneca Lakes in New York State, and the best grown in the State. Owing to their peculiar location, soil and climate, they will ripen thoroughly, hang on the vines later, and retain their sweetness and plumpness up to the holidays without difficulty. In fact they are the standard fruit in our market, and can be bought as readily, and cheaper than apples for our New Year's tables.

White Grapes.—What we want now, is a good white grape. It is a curious feature of grape growing that none of our scientific growers have ever succeeded in supplying us with this article. It is true that there are several varieties of white grapes, but it is a rare sight to see a case of them in our market, and persons desiring a white article procure either the hot-house or foreign article. Any person who can succeed in raising a white grape that will prove to be as prolific as any of the above named varieties, can readily secure high prices for them.

Malagas.—In former years, the foreign white grape did not interfere with our native fruit, for it arrived in limited quantities, and sold at high prices, say from ten to fifteen dollars per barrel; but the importing of them proved to be profitable, and a greater number entered the business. Some of our native fruit dealers entered into a competition with the foreigners, and the result was an increase of quantity, and a cheapening of them to such an extent that it affects the sale of the Catawba very seriously.

For the benefit of those not acquainted with this foreign article, I will give a brief sketch of the fruit, the package made use of to import them in, and the mode of selling them.

The largest packages used are known as

barrels. These contain about one-half the quantity of our barrels. The so-called standard weight for the grapes packed in a barrel is fifty pounds, but they seldom turn out more than forty pounds, even when they are all sound. The next package for size is known as kegs; they contain one-half the quantity of a barrel, and generally yield from fifteen to twenty pounds each. The next in order is known as quarters, containing one-fourth of a barrel. There is also another package, a box, said to contain the same quantity of the keg; but as a general thing they do not sell for as much money as the keg.

This fruit is all white, and known by the name of Almerica, or Malaga Grape, all of which are packed in cork ground fine. Much of this fruit arrives in poor condition, and is sold very cheap at auction. The mode of selling it is thus: A platform, perhaps three feet high, is raised on trusses in the room. A piece of canvas, four feet square, is laid on it, on which three packages of each line or mark of barrels, kegs or boxes are in turn emptied on it. As soon as one barrel is emptied, it is returned to the package until the three are emptied; then the bidding begins, when, if prices are satisfactory to the owners, the entire line is sold by these three samples. Then three of another mark are exposed until all are sold. In buying, you must take at least ten barrels, and twenty-five of any of the other size packages. While the fruit is being exposed, the buyers crowd around this table, and closely examine and taste the fruit. When a choice article is offered, the bidding runs high; if very inferior, it sells low.

To give some idea of the prices they sell for, I will state that, as near as I can remember, during the present season a choice article of barrels sold from \$7 to \$10, a fair article from \$5 to \$6, and a very poor brand as low as \$2; kegs, choice, from \$4 to \$6, fair, \$2.50 \$3, and poor as low as \$1. A choice brand of boxes has rarely sold above \$2.50, while I have seen a really good article sell for \$1.25, and for poor, 25 cents. These are then placed in the market and sold to the retailers, generally at a good profit, for but few of the retail-

ers want to buy such large quantities as they are compelled to at the auction room. In many cases they have been retailed on the street at 20 cents per pound, while the better classes sold at 40 cents, and some as high as 50 cents per pound. Some of these grapes are very beautiful and sweet, while others look as well, but are very sour; yet, being white, they sell readily, if they are plump and fresh-looking.

Lisbon.—This season we have a new variety introduced, called the Lisbon Purple Grape. As its name indicates, this is a purple grape, but unlike any of ours, for it varies from the darkest shades to a light amber, yet all seem ripe. The first that arrived came in good order, and sold from ten to fifteen dollars per box, but some of the later arrivals came in bad order, and sold at a mere nominal figure. The boxes in which these are packed vary from the others in size and make. They are more the style of the orange box, having a partition in the middle, and contain from fifty to sixty pounds each. These are also packed in ground cork, but very much closer, for the packing indicates that it was the intention of the packer to get in all the grapes he could, which is directly contrary to those packing the Malaga, for in many instances it seems that they tried to get in more cork than fruit.

Before closing, let me call your attention to one or two other features of this business that I hope may interest you.

While growers are discussing the profits of growing this or the other kind of grape, their peculiar color, flavor, etc., etc., as being superior, and will finally become the leading grape, etc., etc., our buyers care but little or nothing about these peculiarities. What the great mass of our buyers want, is a black grape of good size, fair clusters, but must be sweet. You may call it by any name you choose, the name will not amount to anything with them. I have frequently been amused with some of our German grocers to see with what obstinacy they refuse to purchase any but a black grape. They say they cannot sell any other, for their customers don't know any other kind, and refuse to purchase any but those they are acquainted with.

Window Gardening.

Floral Decorations in New York.

THE profuseness with which flowers are used in New York at bridal or funeral occasions is fairly a subject of extraordinary comment. We have personally known flowers to the amount of \$6,000 worth brought to a church to decorate it, on the occasion of the funeral of one of the most prominent citizens of this city. *Harpers' Bazar* refers to this subject, and speaks of their use on social occasions.

The floral decorations are a charming feature of evening entertainments this winter, and are withal expensive, \$2,000 being sometimes the florist's bill for the elaborate decorations of a single reception. Different devices are arranged for each room, and for almost every part of each room. Corners are decorated with potted plants, and with cut plants heaped in pyramids; smilax looped with rose-buds festoons the cornices; draperies of roses and smilax are arranged between windows, mantels are divided in three beds of flowers, with violets in the center, daphnes and roses on each end, and a ground-work of lycopodium and ferns. In the wide doors between drawing-rooms is a canopy of flowers shaped like a parasol, and supporting nine balls made of different kinds of flowers, violets, roses, etc. The walls of main parlors are transformed into beds of flowers, where wire frames support great fields of heliotrope, roses, camellias, tuberose and carnations, edged with ferns, smilax and the scarlet leaves of the poinsettia. On other walls are flower cornucopias three feet in diameter, filled with the loveliest cut flowers. To make the hall look different from the rooms, ivy is draped above the doors and staircases, and the landings have baskets of ferns and hanging vines. Great banks of flowers are heaped in the dressing-rooms, and picture frames are studded with daphnes, violets and roses, and draped with smilax, while choice cut flowers fill antique jars and vases. Instead of the marriage-bell of flowers for-

merly seen at wedding receptions, the bride and groom now stand under an arbor or bower of roses arranged before a long mirror. High epergnes of cut flowers are used on refreshment tables where the guests stand; at dinners, where the company are seated, there are lower epergnes, that do not obstruct the view. Troughs of glass in figures, letters and monograms, and straw baskets representing sheaves of oats or wheat, also hold the flowers. At small dinners each gentleman guest finds a boutonniere at his plate, and each lady a larger nosegay, called by the florist a belt bouquet, or else a napkin bouquet. The latter cost from \$1 to \$2 each, and the former 50 cents. The long-stemmed flowers that are now loosely put together for hand bouquets, are first pierced through the calyx by a fine wire, which is then twisted around its stem to support it, the florists say. Remonstrate against this torture of so sweet a flower, and you are assured that experiment proves that the pierced rose will not fade sooner than its lovely companion that is left free beside it. The bouquet is chosen with reference to the flowers that trim the dress.

Hot Water for Cactus.

"SO you are really going to do it," I exclaimed, as she came in with the teakettle. "I should think you would be afraid. I know you'll kill them, and it's too bad, after having them so long. Let me see, it must be ten years since you started the slips."

"Yes, almost eleven, and I'm tired of seeing them around. I've threatened these three years to throw them out, and now I'll give them just one more trial. If it kills them, *I don't care*," and the steaming kettle seemed to sing the words after her in a spiteful way, "I don't care! I don't care!"

It was all about two inoffensive plants, standing in pots on the window shelf. They were species of the cactus, one a Snake Cactus and the other a beautiful drooping plant, that somebody had said bore beautiful large pink flowers; but Aunt Ruth did not know. Neither of the plants had ever blossomed, and after these many years she had resolved to

give them up as not worth the room they occupied.

"I've tried everything but this," Aunt Ruth went on, still holding the kettle, with the spout resting on the sitting-room stove. "I've let them get as dry as ashes in the winter, never putting on a drop of water from fall to spring; I've changed and changed them to smaller pots, till I'm tired of it, and not a flower have I had for my pains; I'll try this last thing, and if *that* don't do—" She finished the sentence by taking the tea-kettle to the window and pouring the smoking contents in the pots. A neighbor had been in an hour before, and said *she* knew of a cactus that flowered immediately after being treated in this way. Let the earth get perfectly dry, then pour on boiling water, and the plants will throw out buds in a few days.

We watched our scalded friends, to see them wilt down, but we were disappointed in our expectations. After a good many days we discovered—what do you think? Little red dots all over the Snake Cactus, and round buds occasionally scattered over the leaves of the other. And now—. Well, I have only one more thing to say: You should see the glory with which our little shelf is filled!—F. A. B., in *Rural New Yorker*.

Suggestions to Amateur Florists.

THERE are many who are investing in plants who have had little or no experience, and to such a few hints may not come amiss.

1. Plants taken from the warm, moist air of a propagating house should be wrapt in thin, soft paper, left open at the top, until they have become acclimated to the change. The leaves should be sprinkled on the under and upper side with a wisp broom, studiously avoiding cold draughts of air. By a little painstaking you will be richly repaid, as this process will prevent the foliage from turning yellow and falling off, and preserving the fresh, thrifty appearance of your plants.

2. The best time for watering plants is towards evening, as in the summer time the evaporation is not so rapid during the night;

whereas, if watered only in the morning, they so soon dry off that they do not get the full benefit of the evaporation process which supplies the place of dew, and they will look more fresh and vigorous.

3. The idea entertained by almost every amateur flower grower that a large amount of earth is required for the health and vigor of the plant, is very erroneous, and is called by experienced florists *over-potting*, and is laden many times with serious results to plant life; for the soil in pots, boxes, tubs, etc., does not have the action of the elements to neutralize the acid or equalize the chemical compounds that are used up or generated to excess when thus confined, as the soil often becomes sour and sodden, and necessitates the speedy removal of the plant into fresh soil, to prevent decay of the roots. Soil best adapted to nearly every plant grown in pots, is good sandy loam. Good garden soil that has been enriched until it is soft and mellow, will answer every purpose; but if neither of these can be obtained, procure leaf mould from the woods, swamp muck and sand, equal parts, thoroughly mixed, and this will make a most desirable compost. The addition of a small quantity of wood ashes or lime will destroy and prevent worms.

4. In repotting, care should be taken not to injure the roots. To prevent this, set the pot into a pan of water until the ball of earth around the roots is saturated; then place the hand over the top of the pot, turn bottom upwards, rap the rim of the pot on the bench or stand, and the whole will fall out. Have ready another pot, one or two sizes larger, and turn into it the plant, supplying sufficient soil to fill up again, carefully shaking so that the roots next to the sides of the pot will be supplied. This process only needs repeating from once to twice a year; but if you want flowers, you must keep your plants root-bound in a measure. This your judgment must decide.

5. Plants kept in a sitting room where frequent sweeping has to be done, should be covered until the dust has settled, as dust upon the foliage injures the plant by retarding its growth and bloom, as leaves are to plant life what lungs are to animal life.

6. Where scale or red spider have accumulated, as they will in warm, dry atmosphere or in dark situations, whale oil soap suds showered over the leaves, and sponged off on the under side, or turning the bottom up, and dipping the whole top into the decoction, will remove the pests. Where plants are crowded into too small space, they will generate the *aphis* or green fly, and the thripp and mealy bug. Smoking or washing the plants thoroughly will destroy these also.

7. Above all, give your plants plenty of fresh air and all the sunshine possible. But few plants will grow in the shade, and this class is mostly confined to the begonia family and a few varieties of vines. Among them are the Smilax and English Ivy. * * *

Winter-blooming Carnation "Maimie."

BY R. L. BLAIR.

THE majority of carnations at best are but straggling things, growing into such ungainly shapes that they cannot be trained into decent-looking specimens. *Pres't De Graw*, for instance, is a beautiful flower, and fragrant, but the plant is of such slender growth that it cannot stand up; hence the best way to treat it is, to train over a small pot-trellis. But the new white winter-blooming "Maimie" possesses merits that should commend it. Its habit is neat and compact, stalk stout, stiff and growing erect, blooming abundantly, commencing when small. By pinching out the top shoot, it soon branches and forms a round, well-shaped plant, requiring but a slender stake to hold it up. A stiff wire will answer the purpose very well. Stakes and supports for plants should be out of sight as much as possible. We want to see and admire the plant, not the ornamental pots and trellises.

Des Moines, Iowa.

Dicentra.—Is it generally known that another beautiful *Dicentra* is very plentiful in some parts of Pennsylvania? The *D. cucullaria* is found in vast quantities in shady woods

on the banks of the Schuylkill, Brandywine, Chester Creek, and probably other streams. The flowers are of a beautiful white, the shape suggesting the idea of breeches, and the foliage is exquisitely delicate and beautiful. This bears cultivation better than many wood plants, provided it is allowed a shady place. On the north side of a building, with plenty of leaf mould about it, it will thrive well and bloom freely. In the olden time, when Dr. Darlington's *Flora Cestrica* was authority, we called this plant *Corydalis Cucullaria*. A division of the genera has deprived it of its pleasant name, and it has been for some years bandied about as *Dielytra* and *Dielytra*, but now probably it may be allowed to rest as *Dicentra*.—*Journal of the Farm*.

Flowering Shrubs.—We want to impress upon all, the cheerful aspect of a home surrounded with shrubs. Plant them in groups and masses, so that in all the summer and autumn you may enjoy a perfect wealth of flowers. In the corners, at every bend of the walk, at your entrance gate, before some unsightly object, are all suitable positions. Certain species make lovely specimens standing singly in the lawn. Such is the *Hydrangea paniculata*, or the *Stuartia* with their conspicuous white flowers. Other species look best in beds of different shapes, as the *Daphne Cneorum*, a small, partly evergreen shrub, with fragrant umbels of pink flowers. *Rhododendrons* and *azalias* are difficult to propagate, and must be left to the skilled gardener; but nothing makes a more gorgeous sight than a little group of these.—*N. Y. Tribune*.

Insects in Flower Pots.—A correspondent of the *Ohio Farmer* tried salt and lime-water successively on carnations and roses in pots. The salt injured the plants, and the lime-water improved the size and numbers of the worms. Next hot water was turned into the saucers of the pots, and warm wood-ashes spread over the surface of the earth and dug in with a hair-pin. The insects were driven away, and the potash was good for the plants. Too large a quantity would, of course, do harm, and consequently caution must be exercised.

New and Rare Plants.

Cyrtanthera Chrysostephana.—An illustration is given in this number of a new and very distinct species of the tropical American genus *Cyrtanthera*. It is of elegant habit, and conspicuous for the vivid red color of the midrib and nerves of the leaf beneath. The flowers, instead of being disposed in a dense thyrse, or in axillary cymes, as in most species of the genus, are collected into a crown-like corymb at the tips of the branches, and are of a bright golden color. It is a plant of easy culture, and considered a most desirable acquisition, for it produces its showy flowers in midwinter.

Dracaena Shepherdii.—Originated and named by W. Bull after Mr. Shepherd, a well-known nurseryman of Sydney. It is a very noble form of *Dracaena*, and considered one of the finest in cultivation. Mr. Bull says of it: "Unlike most of the forms already known, which color most on the free young growth of vigorous plants, this plant takes on its distinctive coloring gradually on the older leaves, the young ones being green, and showing paler green stripes on those parts which take on a later period the peculiar bronzy orange hue. It is very free growing, of ample proportions, the broad oblong linear leaves, 2½ feet long and five inches broad, being arranged in a distinctly spiral manner, and having channelled marginate petioles, six inches long, tinted at the edge with the same bronzy orange color, which is continued along the marginal portions of the lower half of each leaf."

New Hybrid Raspberry Norwood.—This new sort has been introduced by Messrs. Hovey & Co., of Cambridge, Mass., who speak of it as follows:

"This is an entirely new variety of the raspberry, quite unlike anything in cultivation, being a hybrid between the Red Raspberry and the Black Cap, having the large berry of the former, and the strong growth and prolific bearing of the latter. Its growth is

truly astonishing, the canes attaining the height of six feet or more, and an inch in diameter at the base. These shoots produce numerous side branches, which are covered with fruit. Its productiveness is enormous, and it continues to bear for a long period. Berries large, many of them measuring three-quarters of an inch in diameter, light purplish red, with a rich, brisk flavor. It does not sucker, and can only be propagated from the tips of the shoots. It is perfectly hardy."

The fruit must be a perfect curiosity, if description is correct.

New Grape, the Cambridge.—This is a new seedling grape which originated in the garden of Mr. Francis Houghton, of Cambridge, Mass., six or eight years ago, and has now been in continued bearing for four or five years. With regard to its special merits, we quote the recommendation of Hovey & Co.:

"It is a black grape, somewhat resembling the Concord, but with more oval berries. The bunches are large and shouldered; berries large, with a very thin skin, covered with a delicate bloom, and adhering firmly to the bunch; flesh rich, brisk and refreshing, without pulp, and more nearly approaching the Adirondac in quality than any other native grape. Its period of ripening is a few days before the Concord. The vine has all the luxuriance of growth and the firmness and handsome foliage of the Concord, while it is quite as hardy, if not hardier than that grape, not an inch of wood ever having been injured by our coldest winters. The parent vine has never been protected since it sprung up from seed. It is entirely free from mildew, not a leaf having been affected."

New Liliputian Pelargonium Commodore Nutt.—This is one of a strain of liliputian pelargoniums originated by Hovey & Co., a few years ago, and the Commodore Nutt is of the same style as the Dolly Dutton. It grows only 10 or 12 inches high; very compact in habit, with small leaves, and entirely covered with large trusses of flowers, of a deep rosy lilac, spotted on the upper petals—a very beautiful acquisition.



Cyrtanthera Chrysostephana.



Dracæna Shepherdii.

Editor's Portfolio.

Design for a Beautiful Villa.

The design illustrated in frontispiece was drawn by Henry Lamb, architect, 788 Broad street, Newark, N. J., and is one of unusual elegance and beauty. It is a combination of the Italian and the Swiss styles—giving the convenience of the former with the decorations of the latter.

By reference to the plans, the reader will see the rooms are of good size, and open easily to each other or into the center hall; the kitchen has its numerous closets, pantry, and store rooms, with separate stairs, out-door entrance, and passage to the dining room; the second floor is divided very economically into five excellent bed rooms, all of good size, well lighted, and with fair closet room. In the third story, there are three large rooms, with sides four feet in height, and closet room on each side. The height of first story is ten feet; second, eight and a half. The roof of the house, the ell and piazza is covered with slate of various colors, and the front porch is decorated with gilded railing. Over the edge of the roof is erected a ventilator which is not only of convenience to the rooms beneath, but also is quite an architectural ornament. The grounds around the house are to be laid out in lawn, flower beds, ornamental trees, shrubs, fountain, etc. The design was made specially for the residence of the editor of THE HORTICULTURIST, and is to be erected in New Jersey, in the vicinity of Orange and Montclair.

Delaware Strawberries.

Later returns of strawberry shipments from the Delaware Peninsula, give the following astonishing figures:

Total number of car loads	
for the season,	- - 667
Each car will hold 400 crates,	
but averages 280 only,	- 186,760 crates.
Total number of quarts,	- 7,470,400

About half were shipped to Philadelphia, and half to New York. Many growers did

not realize enough to pay for their crates, and the average of the season was not sufficient to pay for freight, picking and commissions, leaving no profit to the grower.

One large grower, near Smyrna, Del., who cultivates thirty acres, was brought largely in debt, and yet has invested \$6,000 in crates, baskets, fixtures, plants, cultivation, etc., without any return.

A New Daisy.

From A. Hame & Son, Red Bank, N. J., we were favored, this spring, with a plant of a new Daisy for in-door or greenhouse culture. It is short, stout, very vigorous, and has numerous flower stalks, with flowers of red and white, and seems to be perfectly healthy, and an excellent addition. The origin is unknown.

Durand's Strawberries.

Mr. Durand, of Irvington, N. J., is now the most prolific originator of new strawberries in the United States. Among the most celebrated of recent varieties is the *Black Defiance*, which has sold immensely. A new sort was shown us the other day, a seedling from this and one other variety, which he claims is the most productive ever grown. It is exceedingly vigorous, hardy, and although the flavor seemed to us no better than Boyden No. 30, not being specially sweet or distinct, yet it is one of that kind sure to suit a multitude who are compelled to escape from the acidity of the Wilson. It is not yet named, but will be introduced probably next year.

A Fine Blackberry Crop.

The receipts of John S. Collins, of Morristown, N. J., from seventy-five acres of blackberries for the crop of 1872, was \$22,500, or \$300 per acre. His farm is located near Camden, N. J. This is the largest field of blackberries in the United States. Most of the fruit was marketed in Philadelphia.

Banquet Decorations.

At a banquet given recently at the Mansion House, London, upwards of two tons of ivy were used in draping the pictures, mirrors and walls, and amongst the cut flowers were upwards of 2,000 blooms of Marechal Niel rose, and large quantities of stephanotis, gardenias

and other sweet-scented flowers, while among the plants employed were palms, pandanads, marantas, aralias and orchids.

An Ancient Tree.

The following are the dimensions of a grand old yew tree growing on the Marquis of Bath's estate, in Wiltshire, England: Height, 50 feet; circumference of branches, 164 feet; spread of branches from north to south, 53 feet, from east to west, 60 feet; girth of stem one foot from the ground, 32 feet; smallest girth of stem, 24 feet 6 inches; length of stem, 7 feet. Under ordinary circumstances, the age of yew trees may be approximately guessed at by allowing a century for every foot in diameter of stem; thus this remarkable old tree may safely be calculated at from 1,100 to 1,200 years old. It is a growing, healthy tree, rather cone-shaped, and is very dense in foliage.

Flowers at the Chicago Exposition.

At a meeting of the florists of Chicago, it was decided to make an exhibition of flowers, etc., at the next Chicago Exposition. An addition will be made to the exposition building of a glass conservatory, 100 by 25 feet, with wings 25 by 30 feet. The cost is estimated at something over \$5,000.

Massachusetts Horticultural Society.

This society has changed its plans of publications, and expects to issue quarterly reports in magazine form. Part I has already appeared, and contains mainly the essays which have been read, and the discussions which have taken place thus far in 1874. Mr. Robert Manning is now permanently engaged to edit all the publications of the society.

House-Top Gardens.

Chicago has always been a little envious of the hanging gardens described in Babylon of old, and is now practicing on growing trees in the air. A large building, divided into "flats" for housekeeping, has been put up on the north side of the city. Its roof, which is very strongly built and excellently drained, is covered with earth and decked with some forty or fifty trees, which are growing luxuriantly. It is a garden on a house-top. Nobody not living in the house can go to it.

From the Sublime to the Ridiculous.

An illiterate fruit stand keeper on Broadway labels his Beurre D'Anjou pears *Dan Jo*. This is as bad as in England, where the pear Josephine de Malines is called *Joseph on the Palings*. And the French give a special twist to L'Abstone Quidney potatoes, while the English are satisfied with *Lapstone Kidney*.

The Pleasures of Strawberry Culture.

Imagine our delight one day this last spring in receiving the following report of sales from our commission agent in New York: "Sold 384 quarts for \$5. Worst day ever known."

"Oh, plant strawberries; keep planting; sure to pay; now is the time to go in!" So say all the fools who don't know the slightest about the enormous extent of the business, and how easily it is overdone. The berries we shipped above cost us 1½ cents per quart for freight, 2 cents for picking, and 1 cent for incidentals. Total 4½ cents to send to market, and nothing in view for land, labor, plants, manure, baskets, interest, profits, etc. What a wretched business! so uncertain, and still the press says, "Plant more, so the poor people can buy cheap;" the nurserymen say, "Plant more," because they want to sell more plants; every disgusted strawberry grower says, "Plant more," because he wants to sell out all the plants he has got; the basket men say, "Plant more, we want to make some more out of you;" and the commission men say, "Plant more, we have not done with you yet." Farewell, strawberries; our bed of 1874 is the last we will ever grow.

Delaware Strawberries.

The biggest day of the season just past was 160 cars, carrying about 500,000 quarts. The season promised abundantly, but was very late in Delaware, while early in New Jersey. The consequence was a tremendous arrival of fruit on the same day from both sections, which, added to the fruit already arriving from Maryland, produced a demoralization of the market, such as never was witnessed before. Just at that time occurred a few days' unparalleled heat, and the berries wilted, the plants were scorched, and the berries just

forming were killed. Thus the crop of the Delaware Peninsula was shortened fully one-half. From a personal visit to the strawberry fields, we judge that the profits of the business will not average over the cost of marketing but \$25 to \$50 per acre, which certainly will not pay for land, labor, manure and baskets. In short, the strawberry season of 1874 is to the grower one of decided dissatisfaction: no profits and some loss.

An Explanation.

The *Country Gentleman* asks why the Delaware berry train of 1873, of 100 cars, carried but 400,000 quarts, when the Chicago berry train, of 23 cars, carried 100 tons, or four times as much per car. The answer is this: The Delaware cars are left at each station to be loaded, and the train, as it comes, picks them up, whether full or not, and passes on without shifting or reloading into other cars. Usually the cars average 3,000 to 5,000 quarts, but have a capacity of 400 crates, or 10,000 quarts. The Chicago cars are loaded full, hence average more per car, but the Delaware trains carry the most number of quarts.

The Hootbreuk System of Fruit Culture.

A year or two ago a new system of fruit culture, discovered by a peasant on the Danube, was introduced to the public by *Les Mondes*. The system consists essentially in training the branches of fruit trees, vines, etc., so as to give them an inclination below the horizontal line, in which case there is a great increase in the fertility of the branch, which in fact throws out leaves and fruit-buds in an extraordinary manner. An essential condition of the process consists in having the line of the branch nearly straight, as, if curved, only the buds at the top of the arch are developed, while the rest remain in their original condition. In an instance related by Duchesne Thoreau, he took four vine plants and trimmed them so as to have one stem to each, arranging these vertically, obliquely upward, horizontally and obliquely downward. He then cut off the limbs alike, and found that from the limb inclined downward more than three times as much fruit was produced as from the others.

Demand for Seeds of Famous Trees.

The interest in tree planting in California is at fever heat, as appears from the following statements of the *San Francisco Bulletin*: "The demand for the seeds of the *Sequoia gigantea* and the *Eucalyptus globulus* is unprecedented. Half a million trees of the latter were sold last season in this vicinity; and nurserymen predict that the demand the ensuing season will cover three million trees. A very large number of the other sorts of gum-trees are sold for ornamental purposes, many of them being more desirable for such purposes than the blue gum. There are twenty-seven varieties of the Australian gum-tree grown in this vicinity. Some of them are equal in every quality which constitutes a good shade-tree, to any tree grown upon this coast. The seed of the blue gum is now retailing for about \$3 an ounce. There are about 3,000 seeds in an ounce. The seed of the *Sequoia gigantea* retails for about the same price; and the demand at present is ahead of the supply. It is now sent all over the world. But the demand is the greatest from Australia. Specimen plants are now grown in most of the conservatories of the Eastern States. There is also a good demand for the seed of the Monterey Cypress. For hedges and wind-breakers nothing has yet been found in this country equal to this species of cypress. When cut in and carefully trained it presents a soft, fine spicula, and keeps its place admirably. If the tree is left to grow in its natural state it makes wood as fast as gum."

Antwerp Raspberries.

Dr. Hexamer in a letter to the *Tribune*, mentions an instance of large receipts by a grower on the Hudson River, who speaks as follows in a letter to the Dr.: "My raspberries are what is commonly called 'Native Red,' or 'Highland Antwerp.' This berry was introduced here six or seven years ago from a garden in Columbia Co., N. Y. It is perfectly hardy—has stood the last five winters in all exposures without burying. It has but one drawback with me, and that is size; it is medium, yet on good ground and with gen-

erous culture, such as we are obliged to give the Antwerp, it is of good size. It is also earlier by a week, and carries well to market. Its flavor is as good as Clarke or Herstine to my taste, not the peculiar flavor of the Antwerp, but perhaps suits more people's tastes than that, as many dislike its aroma. It may not do well elsewhere, as our soil is peculiar. Our grapes are very fine. We seem to be favored with several good crops, and fail entirely with others."

As to the yield, I find that the statement was really below the actual sales. The gross sales from this half acre amounted to \$583, the \$504 being Mr. Deyo's own net receipts. Mr. D. says: "I received \$504 from a half acre, *net* returns, that is, after paying freight and commission, which was 12 per cent. After I quit picking regularly I gave to my boy the remainder, who realized \$17; making the whole \$521 net. The names of many others could be sent you, all of whom have raised as large crops." Mr. D.'s plants are 3 years old, and the reason for not stating this before is that I did not know it. To determine the value of market fruits, I take it for granted that "the opinions of commission men are valuable," and I therefore inquire of many of the principal dealers in New York. One had known the Brandywine for one season, and sold them at an average of 50 cents per quart—the usual price for Antwerps. All others declared the "Antwerp" the highest priced, most sought for, and best raspberry in market."

Persimmons.

We remember listening often to the encouraging remarks of Mr. A. S. Fuller and other horticulturists, to stimulate the productions of new varieties of the *Persimmons*. We have just noticed a statement from the *Revue Horticole*, which describes something of this nature which promises to be an acquisition. It is called by M. Carriere, *Diospyros Mazeli*, and said to produce fruit as large as an ordinary smooth tomato, and of much the same form. The tree is not only hardy but very ornamental, withal, having beautiful foliage. There has also been introduced into this

country, one species of *Diospyros* from Japan, and it promises to prove successful.

"Ten Acres Enough."

Edmund Morris, for many years editor and publisher of the *Trenton Gazette*, and author of "Ten Acres Enough," and "How to Get a Farm," died in Burlington, N. J., last May.

Growth of Forest Trees.

At a recent meeting of the Elmira Club, Mr. Fletcher Carr gave the subjoined schedule of measurements, made 12 years after planting: "White maple, 1 foot in diameter and 20 in height; white willow, 1½ feet in diameter and 40 in height; white ash, 10 inches in diameter and 20 in height; yellow willow, 1½ in diameter and 40 in height; Lombardy poplar, 10 inches in diameter and 40 in height; chestnut, 10 inches in diameter and 20 in height; black walnut and butternut, 10 inches in diameter and 20 in height; while the different kinds of evergreens will make an average growth of from 18 to 20 inches in height annually."

A Fine Prize.

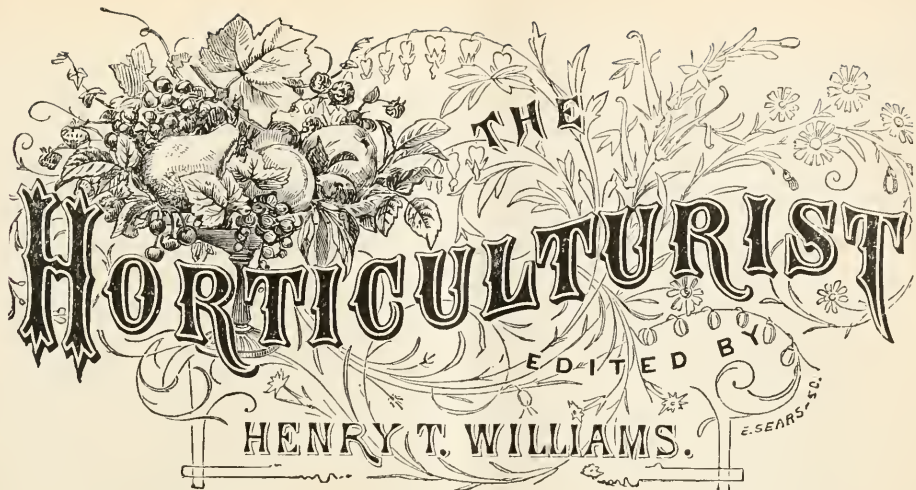
The Assembly of Iowa has appropriated \$1,000 to be used for prizes for the best new apple that will keep in good condition until after April 1, and for a superior plum improved from native stock, the same to be a variety not now in existence, and superior to any in hardiness, productiveness, and quality of fruit. The seedlings must be exhibited from year to year before the State Horticultural Society, and the premium is to be awarded in 1886 by a competent committee appointed by that association.

A New Cherry.

A new cherry, similar to the Early Richmond, but much hardier and sweeter than that variety, has made its appearance in Iowa. The *Iowa Homestead* speaks of the tree as "a botanical curiosity, the twig and bud strongly indicating their origin from the Morello family, while the leaf as strongly resembles those of the Duke family." It is not strictly a new sort, the parent tree having been brought from Germany about 25 years ago, and at present it is in the possession of its introducer, Mr. Lieb, at Galena, Ill., after whom it is named.



SKETCH OF KEW GARDENS, ENGLAND.



CORRESPONDING EDITORS:

JOSIAH HOOPES,

JAMES TAPLIN.

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Travel.

The Royal Botanic Gardens at Edinburgh.

BY JOSIAH HOOPES.

IT is difficult to conceive of a system that would be better adapted to impart information to the botanical student, than the one adopted by the above named society in its very beautiful grounds.

A system of planting, to be perfect, must combine not only accuracy in nomenclature and arrangement into orders and classes, but it must at the same time conform to the recognized rules of modern landscape gardening, so as to avoid an air of artificial regularity, and this I believe has been accomplished in these gardens.

Upon entering the gate our party was met by the superintendent, Mr. McNabb, who has had charge of the collection for very many years, and to whose discriminating judgment and good taste much of the credit is due.

Proceeding at once to the evergreen department, where the conifers of the world are worthily represented, we noticed specimens of disputed species, raised from seeds sent home by the lamented Douglas and other well known collectors. Two very distinct forms of what we in America term *Pinus contorta*, but which the British authority called *Pinus Murrayana*, strike us at first glance as two species. We recognized, however, in the erect conical outline of one, the common form that is peculiar to the high elevations of the Sierra Nevada of California, as well as in many of the passes of the Rocky Mountains of Colorado. The other, and very straggling form, we had never before seen. Our Rocky Mountain pines were represented by good specimens for the most part, although we must regret the poor representatives of a few really beautiful species. The portion occupied by the *Pinus* genus, was well planted, and the arrangement according to form and color was certainly striking. We noticed, however, that the terrible scourge of American pines had reached the old world, and was leaving its mark upon the foliage of their trees as well,

This pestilent fungi had in some instances almost entirely defoliated rare specimens.

We now approach the *Abies* or Spruce family proper, and I could not express the feeling of sadness that crossed my mind as I viewed the specimens of our well known evergreens. The Norway Spruce and common Hemlock, two of the most valuable trees in American gardens, are here almost worthless. Why it is so, I leave others to conjecture, but the fact is beyond dispute—they are not worth ground-room in Scotland. The collection of dwarf as well as of grotesque forms of the *A. excelsa* is excellent, but as they increase in size, the disease peculiar to the parent may destroy the beauty of these as well.

We noticed three large trees belonging to the hemlock section of the spruces, labelled respectively *A. mertensiana*, *A. albertiana*, and *A. bridgesii* which appear precisely alike, and are so considered by Mr. McNabb. *A. Hookeriana* and *A. Pattoniana* are dissimilar in appearance, and may prove to be merely forms of the same species, as the cones are almost undistinguishable in the collection at this place: they are, however, charming trees for this climate. The crowning feature of this whole collection in my opinion is the superb group of *Firs*. Here may be seen all the rare species in cultivation, introduced not only from our Pacific coast, but from the Crimea and elsewhere. Fine old specimens of *Abies grandis*, *A. Nordmanniana*, *A. nobilis*, *A. Cephalonica*, *A. pinsapo*, were in robust health, and the numerous forms of our well marked conifers were exceedingly attractive. Our attention was especially directed to a variety of the *A. grandis*, marked *A. lowii*, which combined more excellencies of an ornamental tree, than any of the other forms in the group. *Abies Douglasii* was ably represented in an old specimen some fifty feet high. I was very much pleased with a large group of the Lawson's Cypress, in which were shown over forty distinct forms of this remarkably variable tree. Opposite this as a companion picture, was a large bed of Yews, where the curious,

and in many instances beautiful, forms were almost endless in number. Of the variegated varieties, I was most pleased with the "Washington" Yew, a rich golden tinted form already introduced into American collections. The practice of grafting a golden top on the Irish Yew, is certainly more curious than elegant, and I decidedly prefer seeing a tall pyramid of yellow foliage from the ground to the summit.

A large bed of the Deodar Cedar, to represent the many systems of pruning, was quite interesting, from the fact that I saw here for the first time the thickening-up process carried out perfectly: whilst some plants were made into weepers, others again trained into erect dense columns, and still others into compact spherical bushes.

The *Cedrus Argentea* is one of the most valuable trees the Scotch can employ, whilst on the other hand, its near relative the Cedar of Lebanon is comparatively worthless in these grounds, and yet I saw as perfect specimens of the latter at the Mertown Gardens, near Melrose Abbey, as I have ever seen elsewhere. I cannot say much in praise of the American Arbor Vitæ and its numerous varieties as seen at this place, but the *Thuja gigantea* from the Northwest coast of America thrives with astonishing vigor. The *Biota* or family of Chinese Arbor Vitæ seem to succeed much better, and I wish to particularize as especially fine *Rollinson's elegantissima*. This really golden gem succeeds so well in America, that I think every well-kept place should possess at least one specimen. In the newer Japanese Retinospora genus, the Scotch are decidedly behind us, not only in fine plants, but in the number of varieties. I suppose that Mr. Hunnewell, near Boston, owns more fine specimens than all the collectors of Scotland together.

The beautiful plants of *Araucaria* to be seen here, however, fully compensate for many deficiencies in other genera, for they stand like living masses of green coral on every hand. The Junipers are not unusually fine, in fact rather below the average of common collections—something in the soil appears to

stunt their growth, excepting in a few rare instances. Good specimens of *Torreya* are seen, and *Podocarpus Japonicus* and *P. andina*. *Cryptomerias* do well, especially the newer *C. elegans*, which is a gem I am afraid Americans will never be fully able to enjoy.

But I have tarried so long with the conifers that I shall not be able to devote sufficient space to all the other beautiful things in these extensive grounds. The shrubbery is well represented by all the choicest species and varieties in cultivation, and as I wandered through the masses devoted to this class of plants, I noticed very many interesting sights that I long to particularize. In deciduous trees as well, this collection is exceedingly rich, notwithstanding the limited area as devoted to the collection. All the choice varieties of Beech, Ash, Maple, Linden, Oak, Poplar, etc., were well grown, and in many instances of large size.

I noticed with pleasure a small garden filled with specimens of grasses all neatly labeled, and giving evidence that here we might find a valuable auxiliary to our landscape art. Close beside was a very pretty collection of hardy ferns also neatly labeled.

One of the most pleasing features of the place, however, and one which attracts more notice perhaps than any other from the casual visitor, is the large rock-work covered with Alpines and other hardy herbaceous plants. Here may be seen *Sempervivums* and *Sedums* so numerous, that one becomes confused with the multiplicity of names: and some of them are delicately tinted with yellow and violet as to rival the beautiful petals of many a popular flower. Interspersed among the tiny little alpines are the taller flowering stems of choice bulbs and feathery ferns; and all about are the grotesque white stones that form the rock-work and which supply the needs of this class of plants. Many of the terrestrial orchids were growing in profusion and full of bloom. The Succulents were fine, particularly the *Echeverias*, just showing their flowers.

An inspection of the museum, hasty though it was, was a useful lesson. Here we saw the cones of very many species of the coniferæ,

besides seed vessels of a large number of curious plants; specimens of woods, bark, and fibres also contributed to our instruction.

We were shown into the lecture room where a large class of botanical students weekly meet to gain practical knowledge from the best qualified professors of botany, and where the lessons they are taught may be illustrated by the living plants. The walls were covered with large sketches, and on the desk were many excellent models of flowers and leaves.

Our visit closed with a rather hasty glance through the glass structure devoted to the tropical plants. The palms, many of which were very old showed evidence of unusual care. The *orchids*, *ferns*, *cacti*, and in fact all the various classes were very pleasing and instructive. Even the so-called "florist's-flowers" were not neglected, and excellent examples of geraniums, fuschias, roses, etc., showed that skill was required to grow them in such perfection. I could not help envying this people, such a school for the rising generation. Why can we not in America secure something of the kind for the masses who thirst for botanical knowledge, without the means to gratify it? Parks and beautiful gardening are all very well, and are refining in their influences, but we need something more—a collection where we may compare and study the nature of every plant that grows. The idea is feasible, and I sincerely hope may be attempted in America at no distant day. If I mistake not, the Cambridge Botanic Garden aims at this, and all lovers of botanical science heartily prays for its success.

New Orchid.—One of the most striking and elegant orchids we have lately seen, and one quite new to us, is *Phajus bicolor*. It has the habit of *P. Wallichii*, but the flowers are smaller, more elegant in form, the sepals and petals lanceolate, brownish, the lip pinkish. We saw it lately in bloom at the Jardin des Plantes, and were much struck with its beauty.—*Gardeners' Chronicle*,

The Greenhouse.

Greenhouse for September.

IN the latitude of New York it is not safe to trust very tender plants out-of-doors after the third week in this month, for we frequently get a sharp frost for a night or two about that time, and if the thermometer does not fall to freezing, there are usually a few nights cold enough to give hot-house plants a severe check; and although it does not continue cold but one or two nights, mischief may be done which cannot be easily repaired; for example, two years ago several growers had their *Bouvardias* caught by frost about that time, and although the plants were not killed, it spoiled the flowering. Some situations are more liable to early and late frost than others, and the necessary precautions must be taken in time to prevent damage. Such plants as *Camellias* and *Azaleas* with other hardy plants will do best outside until the end of the month, as it will give a longer season for the summer occupants of the house, for, by that time the beauty of many of the temporary plants will be past.

Poinsettias and *Euphorbia Jacquiniflora* should be the first plants to place inside. These plants suffer easily from either low temperature or heavy soaking of rain, by making the leaves yellow; these fall off prematurely and the flowers are not so fine.

Bouvardias should be lifted from the open ground and either potted or planted in a warm part of the greenhouse; if the ground is very dry the plants should have a good soaking of water previous to lifting, but it is usually possible with a small number of plants to use the opportunity of a shower of rain for taking up these sorts of plants.

Carnations are best taken up before the end of the month, for although these plants are tender, if they are expected to flower satisfactory, it is necessary to have them well established in winter quarters early in the season, and we then can give abundance of

air day and night until very cold weather commences; if these plants are grown in large quantities, it is best to plant them on the benches of the greenhouse, but the small number usually grown by amateurs, is most conveniently grown in seven or eight-inch pots; a good loam mixed with rotten manure is best for these plants. The soil in the neighborhood of Flatbush is specially good for carnation growing.

Tender Roses in pots intended to flower during winter should be placed in a frame; if necessary to give them larger pots it should be done at once, to obtain plenty of roots before winter, or they will not flower satisfactory. We find a good strong plant of *Marshal Niel* and one of *Lamarque* trained on roofs, give a large quantity of flowers during the winter and spring with a few at all times during the summer; with little attention we have generally flowers to cut at all seasons, but the largest number about Easter, when flowers are most in request.

Calla Lilies which have been at rest during the summer, should now be shaken entirely out of old soil and all offsets removed and potted into same sizes of pots again. We find seven and eight-inch pots the most useful sizes for these plants. They do best in a good strong loam with a portion of rotten manure, and should be potted very firm with the soil just covering the crown of plant, for the principal feeding roots are formed round the crown. After potting we stand the pots outside in full sun, and give water enough to keep the soil just moist, and remove to greenhouse on first risk of frost. Our plants commence to flower in November, and continue to bloom until they are removed outside in May, and are indispensable for church decoration.

Crassula Lactea must not be over-watered at this season, or the growth will be soft and few flowers obtained. Give the plant full sun and plenty of air.

Epiphyllums and *Cactus* generally will require less water at this season, but do not keep the plants dry enough to shrivel. The more sun and light these plants obtain,

the better they flower. There appears to be a growing taste for these curious plants; this is not surprising, for many of them are very handsome, and the plants will bear more neglect than many others without suffering; in fact, neglect in giving water does less harm than giving too much, for in overwatering the roots often perish.

Baskets.—The beauty of many of the summer baskets such as *Achimenes*, *Begonias*, etc., will be over, and must be replaced by such as *Cethouma*, *Crassifolia*, *Epiphyllums* and *Achyranthus*; these last are capital for giving color to a warm greenhouse in winter, and much more effective than when seen growing below the level of the eye; small, well colored plants of *Dracenas* are also good for center of winter baskets.

Cyclamens.—These plants will require fresh potting during this month; the proper time is as soon as growth begins, which is seen by small young leaves pushing from the crown of bulb. It is an open question if it is best to bury the bulb in potting or to leave it partially above the soil? We prefer to bury it while small, but find very large bulbs frequently rot if covered with soil, from the water lodging in the crown. There is no doubt many roots will form round the top of bulb if buried, but the risk of decay does not compensate for this. These fine plants grow best placed near the glass in a warm greenhouse and shaded from bright sunshine; they also require careful watering until the pots are well filled with roots, for if the soil gets too wet when first potted, the plants never grow satisfactory. These plants are among the most satisfactory, either for greenhouse decorations or as window plants; they last a long time in flower, have a great variety of color, from pure white to rosy crimson, including striped and spotted varieties, are very sweet-scented, and are also very easily grown by amateurs or professional plant-growers. Any good soil which will grow a geranium is suitable for these plants, with the addition of extra sand or grit to keep it open.

Chinese Primulas will require a shift

into larger pots as soon as the pots are well filled with roots, which they should be, early in this month, if former directions have been attended to; six and seven-inch pots are the most useful size to flower these plants in, except for a few extra large specimens, for which we use nine-inch size. These plants would come in well if required for exhibition, but it is useless to have plants in these large pots unless they are very extra strong, for if overwatered, they would probably rot off at the surface. In potting these plants be careful to sink the old bulb low enough for the soil to cover the stem up to the leaves, for the best roots usually form just below the foliage, and if potted high, the plant is always loose in the pot and liable to break off when moved.

Gloxinias and Achimenes will, with the exception of late plants, be gone to rest, and may be kept dry and placed away under the stage, but not in a cold place or the bulbs will decay.

Pelargonium.—If not shaken out already, should be done at once, and repotted into smaller pots. Give them a good light place and plenty of air to get the plants well established before winter.

Ferns and Selaginellas should be looked over to see that scale and thrip have not become established, and should be destroyed at once by careful cleaning. These plants are very useful at all seasons of the year, both to mix with flowering plants and also for cutting to mix with cut flowers. A nicely filled fern case is one of the best ornaments for a sitting room, and requires much less attention than growing plants in general.

Connas.—A box or two of these plants placed in a warm part of the house is very useful for cutting shoots during the winter to mix in large stands of cut flowers. Select some of the varieties most telling in the foliage, such as *Marshal Valliant* for dark brown, and *Jean Vandael* or *Premiere de Nice* for a light green.

Tuberose.—If plants of these, which are commencing to throw up flower stems, are carefully taken up and potted, well watered

and shaded for a few days, and placed in the greenhouse, they will flower for a long time after frost has destroyed those outside. Late flowering *Gladiolus* may be treated the same way, but not taken up until a sharp frost is expected. These plants make a good show standing among other greenhouse plants, and are also useful for cutting.

Scarlet Sage.—A few plants of these taken up at the end of the month are useful for winter decorations and also for cuttings in the spring; those plants are best which have not flowered much while planted out, and are of a moderate size.

Begonias.—Any of these plants which it is desirable to save from the open ground, should be taken up at once. Some of the winter flowering varieties are very useful treated in this way. Those plants which are in pots and require a shift into a larger size, should have it at once, to get the pots well filled with roots before winter.

Coleus.—If no moderate sized plants are preserved in pots, a few cuttings of each desirable variety should be propagated at once; they will root free enough if not left too late, and by keeping in a warm place will give plenty of cuttings in the spring; but old, hard-wooded plants winter better in a cooler house, than fresh rooted plants.

New Rose, "James Sprunt."

NEW climbing monthly rose "James Sprunt," the name, though not pronounced in French, Greek or Latin, will be new to thousands. Originating in the sunny South, its character and habits are so intensely national, that we find relief in turning from the long list of foreign roses to chronicle a native climber that will domesticate itself for pillar climbing in the greenhouse or for sheltered winter-protected situations outdoors. It would be wise for those desirous of improving on their climbing roses, to select these of a domestic origin, in preference to those that

bear a long foreign name, so puzzling to our discerning facilities, and in many cases inferior in qualities.

This climbing monthly rose was received by us in the fall of 1873, and was labeled "tender north of Baltimore, excellent for greenhouse pillar climbing." Be its excellencies for climbing pillars under glass as it may, we beg permission to inform the public generally, that after a fair and impartial trial outdoors last winter, we pronounce emphatically, a verdict, not entirely tender.

We planted rose J. Sprunt in a sheltered place outdoors, and thatched it with straw. A thermometer was inclosed with the rose and hung on one of the lateral branches, so that we could accurately judge of its powers. In cold and changeable weather we compared the enclosed temperature with another in the open air, and discovered that the temperature of the rose did not vary by eight to eleven degrees in comparison to one exposed to the weather.

One cold night the temperature of this rare climber fell fourteen degrees below freezing, such as caused some anxiety to think serious of its welfare. But the plant was healthy, the surroundings dry, and being protected from the piercing winds, it was not injured the least. About the latter part of February, the leaf-buds commenced to swell, a portion of the thatch was removed in mild days, and the sun and air permitted to aid the expanding leaves. Six weeks later, the flower-buds began to form, and were fully opened the last week in April, one month ahead of the hardy kinds bedded in the open ground.

This plant assumes a climbing attitude while yet small; main branch strong and erect, with lateral branches of an upright tendency. Blooming regularly every month with a profusion that could not be appreciated except by those who have witnessed the abundance of its dark crimsoned blossoms. Judging from its rapid growth during the last four months, I am disposed to think that it will attain twelve feet of new wood this season. Buds, very attractive, tea fragrance of a rich, dark, deep crimson color, and quite durable.

A WESTERN HORTICULTURIST.

Eucharis Amazonica.

ONE of the greatest recommendations this plant possesses is that it can be had in flower at any time by a little forethought and attention to its growth. They are very useful to come in about Christmas and the spring months. The end of August is a good time to look them over and see if any require fresh potting; if so, let it be done, carefully shaking out the bulbs, as the roots are easily broken off. Arrange the bulbs according to their sizes, putting the large ones into their flowering pots at once, but not too many bulbs of the largest size in one pot; if too close together, the foliage has not room to fully develop, and the flowers suffer. The smaller ones, being put into small pots, will require a shift whenever the roots appear at the side of the pots. This lot can be grown on in autumn—a month or six weeks later than the large ones—and will make a fine succession of bloom the following spring. Good fibry loam, chopped up rather rough, with a good quantity of old mushroom dung sifted through a fine sieve, with a sprinkling of silver sand and charcoal, well mixed, suits them well. In potting, great care should be taken to have the pots well drained, as they are very impatient of stagnant water, although, when growing, they delight in plenty of moisture both at the roots and in the atmosphere. After potting, they should be placed where they can have a temperature of from 65° to 70° at night, with a rise of 16° by day. They are all the better of a little shade on bright days. After they are in full growth a little manure water may be given with advantage; and if a little soot is mixed with the above water, it gives the foliage a brighter appearance. Grow them on in this temperature until about the middle or end of September—the smaller bulbs later, as recommended before—and gradually harden them off until they can stand in a temperature of from 50° to 55°. If there is not much room at command, lay them on their sides under a stage where they can have the benefit of light. Here they may remain for six weeks, giving little or no water, but syringing them well

every day. When wanted to start, examine the drainage, give them a rich top dressing: if found to be rather dry, place them in a bucket of tepid water until the ball is thoroughly wet. By plunging the pots in a bottom-heat of 80° with top heat at from 60° to 65°, attending to them well with water, both at the roots and syringing frequently through the day, if properly treated before, they will soon begin to throw up their flower-stem.—*Gardeners' Record*.

Aquilegia Whitmaniana.—A correspondent of the *Gardeners' Magazine*, writing of this plant, says it may be considered one of the most beautiful hardy herbaceous plants in cultivation. The flowers are of large size, and similar in shape and color to those produced by well established plants of *A. glandulosa*, which is seldom seen in a thrifty state. The plant also is taller and much stronger in growth, and blooms more freely than the species referred to, and it is in every way better. Large well established tufts produce a glorious effect, and it well deserves a place in the choicest collection of herbaceous plants.

Veronica Imperial Blue.—This is a most useful plant for late autumn and winter decorations, and being of a very dwarf and compact habit, neat little specimens can be grown in six-inch pots. They may be propagated from cuttings in spring, treating it in every way same as spring struck Geraniums, and then planting it out in good rich soil in the first week of June, as soon as all danger from frost is over, and must be attended to during the summer, should dry weather set in, with a liberal supply of water. About the end of September, lift them carefully, and pot them into five or six-inch pots, and afterwards place them in a close pit or frame, taking care to shade them for a few days, until they get over the change, when all the light and air possible should be given them. At this stage of their culture, they will be showing plenty of bloom, and if good fibry loam is used when potting them, they will continue to grow and flower freely for a long time.

This *Veronica* makes a good plant for a front line on a conservatory stage, and is very useful for mixing among other dwarf plants.—*Gardeners' Record*.

***Vitis tricuspidata*.**—A plant of this elegant cool greenhouse, or rather hardy climber, should be grown in very cool corridor or conservatory, where a vigorous growing plant is desirable. Grown under these conditions and planted out in a moderately rich border, it develops very fine foliage of a bronzy green color, and is one of the very best of foliage plants for such purposes.

***Packing Plants*.**—Plants always travel better by being sent upright in round baskets with sticks and mats round them; no system invented up to the present is equal to this, but it is the most expensive.

All delicate leaved plants, such as variegated *Pelargonium*, suffer by the foliage being broken and otherwise disfigured by all other modes of package. The next best system is a good box, and the plants laid down and all spaces filled up with moss or small shavings, and as many plants turned out of pots consistent with safety, and put in sugar paper. This is a capital way of sending such things as tender *Zonale*, etc. More common things, as bedding plants, etc., are laid down with their roots wrapped up in paper to keep them together. By this means, the weight of the pots is saved. A great quantity can be packed in a small space and at a small expense, and the carriage cost is but trifling to any part.

H. CANNELL.

New Golden Fern (*Gymnogramma decomposita*).—As a garden plant, this new golden fern will take the position of a companion to the silvery *G. pulchella*, the size, fine cutting, and triangular outline of the fronds producing a certain amount of similarity, though botanically, the two are perfectly distinct. It was introduced from the Andes of South America, by John Gair, Esq., of Falkirk, by whom it was sent to Kew, and from thence it has been distributed. The fronds are nearly deltoid in outline, membranous in texture, and quadripinnatifid in division, supported on dark chestnut,

brown shiny stripes, more than a foot long, clothed with sulphury meal at the base, and furnished with a few scattered, pale brown scales. The pinnæ are set on tolerably close, of a clear green color; the pinnules close lanceolate-deltoid, the tertiary segments palmatifidly cut down into linear acute segments, and bearing the sulphur-yellow sori through the whole length of the vein. It is a fine stove species, the large triangular fronds having a peculiarly elegant appearance from these fine cuttings, while the minute finger-like divisions into which the lobes are split up, give it a distinctive character.—*The Florist*.

***New White Lilac*.**—Mdlle Legraye, florist of Liege, has succeeded in raising a new variety of white lilac which is described in the *Belgique Horticole* as being exceedingly fine, the flowers being of large size, good substance, and of the purest white color, with anthers of a golden yellow, and arranged in large well furnished clusters. The jury at the International Exhibition at Maestricht, awarded the plant a first prize, and also bestowed upon it the title of Reine des Pays-Bas (Queen of the Netherlands).

***Novelties in the Kew Gardens*.**—A correspondent of the *London Journal of Horticulture*, writes in a gossipy manner respecting several novelties at the Kew Gardens. Several *Yuccas* are in flower. *Y. recurvifolia* is perhaps the most handsome, partly from the graceful habit of its recurved foliage. On the rockwork is *Sedum arboreum*, a distinct species apparently unpublished. It is of a perennial of erect branching habit; the leaves are small and terete, or on the stouter stems shorter and of conical form; the flowers are white.

Lilium philadelphicum is a striking species about one foot high. The flowers are orange color with dark spots. It has a distinct appearance from the long claw of the perianth segments. In the orchid house, in flower are two plants of *Oncidium Lanceanum*, one of which has an extremely fine spike. The flowers are richly colored with a lip nearly white. Two of the flowers at the top are

united by their ovaries, and the union continues along the center of the back of two of the sepals for about $\frac{3}{4}$ of the length.

Broughtonia sanguinea is of a crimson color, rarely found among orchids. It lasts in bloom a considerable time. Some cultivators have found it difficult to grow. A high temperature with plenty of moisture is what it seems to require.

Passiflora cinnabarina has been in flower for a considerable time. It only requires an increase of breadth in the petals to be a valuable climber, and might repay the attention of hybridizers. It is of free growth, with large, dark green leaves, producing the red flowers freely. If to the other qualifications could be added a well formed flower of the same color, it would be a decided acquisition for the greenhouse.

Desfontainea spinosa is a Peruvian shrub, much resembling a holly, and when in flower is very beautiful. The flowers are tubular, bright scarlet, with a yellow limb, and are freely produced. It is nearly hardy, and will stand out of doors in favorable situations.

A Circular Subtropical Bed.—The following is an arrangement of a flower bed, planted on the grounds of Massey & Hudson, Chestertown, Md., and much admired: *Centre*, a tall growing Canna, next a circle of dwarf, dark-leaved Cannas, then a circle of *Coleus Verschaffelti*, then a circle of *Centaurea Gymnocarpa*, and an outer circle of *Alternanthera Parychoides*.

Pernettya Florabunda.—This is one of the handsomest hardy shrubs we have for the decoration of the conservatory, and for such a purpose alone should have a place in every collection. In looking through the gardens of J. H. Jessop, Esq., Marlfield, Cabbintceely, a few days ago, we observed in the conservatory amongst other choice plants a very handsome specimen of this *Pernettya*, completely clothed with a crop of its handsome berries. Any one seeing this plant in the state it is now in at Marlfield, cannot fail to appreciate its value for decorative purposes. Planted out in the pleasure ground in the same place we observed two

large American Aloes (one the variegated variety) which were in the best possible condition. The only protection they receive is that of a mat or two, drawn round them during severe weather in winter.—*Gardeners' Record*.

Lilac Dr. Lindley.—This is by far the best addition which has been made of late years to our hardy forcing shrubs. We hear and see a good deal of the French productions in the way of white Lilac, but their plants are large before they are fit for their method of forcing. Here, however, we have a sort that will in a short time supersede that, with all persons who require to force, since it sets its buds on small plants, and opens freely. We have some plants eighteen inches high, with a dozen clusters of bloom, and if forced in a shady house, it comes a good white. When it is more plentiful, and the plants get up to, say, three feet or so in height, there will be no more showy plant for a greenhouse. A good deal more has been made of the French practice of forcing white lilac than it deserves. In fact, if a demand were to spring up for it in our markets, a good supply would soon follow, because if the tops are cut off, and put in with bloom-buds well set and ripened, they will push their bloom as fine and as good as whole plants, supposing always that they are forced in some sort of dark house, say a cellar-like mushroom-house.—*Florist and Pomologist*.

Subtropical Bed.—A very effective bed was planted, this summer, in the gardens of the Luxembourg, Paris. It consisted simply of a bed of *Papyrus* plants, edged with *Cyperus alternifolius*. The bed was raised a little in the centre, and covered with a rich mulching of decayed leaves. It was at once graceful and effective. In the same garden was an edging to a shrubbery border, formed by *Centranthus ruber*, and its white variety, planted alternately. This formed a very bright and pleasing belt.

A woman near Buffalo has, so far this season, cleared twenty-five hundred dollars from a strawberry patch of two acres.

The Pleasure Ground.

Ornamental Grasses.

MANY garden folk are very fond of cultivating plants of this class, as many of them are very grand, stately, and graceful in their habit of growth; others are remarkable for the great beauty and delicacy of their inflorescence; and all are of easy cultivation, thriving in any ordinary well-manured soil.

For the information of such of our readers as may not yet have attempted their cultivation, we append notices of some of the most desirable sorts. Apart from their use as garden decorations, their flower heads make, when properly dried, very beautiful mantel ornaments, unequaled by any other class of plants for the elegance and airiness of their forms. We particularly recommend them to those whose higher artistic cultivation has taught them to appreciate the beautiful in form rather than in color.

The *Gynerium argenteum*, or Pampas Grass, of South America, is the largest grass grown. It forms large tufts of leaves about three feet long, which recurve very gracefully, and are of a glaucous green color; the flower stems are from five to ten feet high, furnished with leaves for a portion of their length, and terminated by silvery, silky, branching panicles of flowers, the panicles being from twelve to twenty inches in length. The plant is dioecious—that is, some plants produce male flowers and others female flowers; the first are much less beautiful than the latter. There are some eight or nine varieties now grown in Europe, three of which have variegated leaves, one has light rose-colored, and another has pale violet-colored plumes; but these have not been introduced into this country that we are aware of. The plant is not quite hardy in this latitude, and should be grown in a large tub (a half-barrel, for instance), or, if planted out, should be taken up in the autumn and kept in a warm cellar; at the south it is quite hardy.

Erianthus ravennæ, or Ravenna Grass, is

a native of Italy. It is similar in appearance to the Pampas Grass, differing, however, in the form of the plumes. It has long, graceful foliage, throwing up flower stems six or seven feet high, terminated by graceful, drooping, feathery-like plumes from fifteen to eighteen inches long; these have a silky appearance, and are of a silvery white color. The plant is hardy in this latitude, but northward would require to be protected with leaves.

Agrostis nebulosa is a very beautiful annual grass, with stems from twelve to fifteen inches high, with from five to ten whorls of long hair-like branches terminated by the flowers, the whole forming a graceful, airy, feathery panicle. These panicles, cut before the seeds are ripe and dried in the shade, can be preserved for a long time, and either in their natural state or dyed are used by milliners and artificial flower makers.

Briza maxima, or Quaking Grass, an annual with flower stems from twelve to twenty-four inches high, with large calycine scales, which form close, flat, rather long, heart-shaped pendent objects, with delicate, flexible footstalks, that allow them to move with the slightest movement of the wind. Another species, *B. gracilis*, is similar to the above, only differing in being dwarfer and more delicate in habit.

Aira pulchella, in some of the seedmen's catalogues inserted as *Agrostis pulchella*. This very elegant and graceful grass is an annual, growing from eight to ten inches high, producing numerous thread-like flower stems, terminated by erect, delicate, graceful panicles. These being cut, and dried in the shade, can be kept for a long time, and, like the *Agrostis*, are used by milliners and artificial flower makers.

Lagurus ovatus, or Hare's-tail Grass, is pretty dwarf-growing species, whose flower stems are terminated by upright, soft and velvety heads of flowers, which, being cut before their complete maturity, are readily preserved for winter bouquets, and are also used for the coiffures of ladies.

Panicum capillaceum is the *Eragrostis elegans*, or Love Grass, of some of the seeds-

men. It is an annual, although it is stated in some catalogues to be a perennial. It grows from eighteen to twenty inches high, and has large panicles of flowers lightly tinted with rose color on the exterior. It is not as strikingly ornamental as some of the others, but is useful for winter bouquets.

Pennisetum longistylum is generally grown as an annual, but at the South would be a perennial. It is a very elegant species, growing from eighteen to thirty inches high, the flower stems producing long, white, gracefully curved plumes, which are very desirable for winter bouquets. This species requires a light, rich soil, and if the season is dry, should be well watered.

Stipa pennata, or Feather Grass, is one of the most beautiful of all grasses. It is a perennial, growing from eighteen to twenty inches high. The plumes are long, remarkably light, and flexible, and have a strong resemblance to marabout feathers, and are used by the milliners and artificial flower makers as imitations of them.

Uralia japonica is a perennial hardy species from Japan, with long, variegated leaves. The flower stems are from three to four feet high, very reed-like, and produce loose panicles of flowers; these panicles are hairy and erect until dried, when they become elegantly curled, closely resembling *Ich dien* feathers. It is a remarkably elegant species.

Hordeum jubatum, or Squirrel-tail Grass, is an annual, growing from twenty to thirty inches high, the plumes being from four to six inches long, sometimes straight and sometimes gracefully curved; the scales of the flowers are terminated by long awns, which are green at the base and of a light rose color at the summit; these awns have the appearance of bristly hairs.

Festuca glauca is a dwarf-growing species, with upright, very glaucous green leaves. This plant is admirably adapted for edgings, growing very densely, and not inclined to run or spread. It is of recent introduction to our gardens, and we believe that it will in many cases supersede box edgings. It is perfectly hardy, and is a perennial.

Besides the above-named species, there are others of comparatively recent introduction to be found in the catalogues, some of which may be worth growing; the above selection, however, includes the most striking or picturesque species. Closely allied to the grasses are some species of Bamboo, which stand our winters here with but slight protection, as *Bambusa metake* and *B. fortunei variegata*. *Arundo donax variegata* is a hardy, reed-like plant, with the stems growing four to five feet high. The *latifolia* is also a reed-like plant, from five to ten feet high, with long, recurving leaves; is not hardy at the North, and must, therefore, be kept in a warm cellar in the cold season.—*Harper's Bazaar*.

Gordon's Philadelphus.

THIS new shrub, which has received the free notice of English horticulturists, is thus described by a correspondent of the *Garden*: This forms a many-stemmed, vigorous-growing deciduous shrub, which attains a height of from eight to ten feet. Its principal stems are more or less ascending; the branchlets are slender and somewhat pendulous, and when a certain amount of size has been attained, a number of strong shoots of a whitish color are annually produced from the base. It is a native of the northwest coast of America, where it grows in the shape of underwood along the banks of the Columbia River. It is also found in Upper California, in shady woods along the Sacramento River. In this country it grows freely in any common garden soil, and it is readily increased either by seeds, which are ripe in October, or by means of cuttings of the half-ripened shoots in August. It was first introduced in 1826. The leaves are somewhat small, ovate pointed, coarsely toothed on the edges, three to five nerved, and produced on short foot stalks; when in the adult state, they are smooth and bright green above and hirsute beneath. The flowers are large, pure white and scentless, and are produced in great profusion in terminal compact racemes, of from five to nine flowers each, in the end of July. The fruit or capsule, which is ripe in October, is comparatively large and semi-

superior, with a large, broad, spreading calyx attached to it. This species of Mock Orange is one of the finest and most showy of the genus, and it deserves a place in every collection of shrubs, however limited, on account of its producing its flowers in great profusion, and at a season when nearly all other shrubs have done blooming. It is sometimes misnamed *Philadelphus californicus*. The length of a full-sized leaf is three inches, including the footstalk, which is not more than half an inch long, and the breadth is two inches.

Weeping Trees.

MR. MEEHAN makes the following remarks on the weeping classes of ornamental trees :

"Of late, people take the common European larch, train it up to eight or ten feet, and then cut its head off, and at the same time trim up the side branches to a single course at the top. It seldom starts out a new leader, and the vigor of the whole tree being thrown into the single set of side branches, they droop grandly. In weeping ashes we have still but the old green leaved and the golden barked ; the last is rather more tender than the other, but when it gets to grow well, is a striking object on the lawn. In weeping poplars there are two forms—one of the English aspen with rather small leaves, though larger than the American aspen—the other of the large tooth-leaved American popular, *Populus grandidentata*. In willows the Kilmarnock and the Fountain are still the best. The former is a delicate grower, and is an excellent thing for small corners, or limited spaces on lawns. The weeping mountain ash is very easily propagated by budding, and would be immensely popular only for its suffering so from a hot summer, or borers near the ground at any time. Notwithstanding the many sold, we have never seen a specimen of any size. Along the cooler climate of the lake country, we have been told it does charmingly. The weeping hawthorn suffers in the same way from similar causes. Weeping elms are always beautiful. They suffer much by having the

leaves skeletonized in July by the leaf-slug, but the American forms are more free from this evil than the European ones. As a general rule American trees have not given us many weepers as yet. So far as we know, there is not a single maple of a decided weeping habit ; nor a weeping oak, among so many species. It is worth watching for among our wild trees.

The White Lobelia.—The English florists are enthusiastic in their praises of the new white Lobelia, named *White Perfection*. A correspondent of the *Journal of Horticulture* writes as follows : "A really good white-flowering bedding plant is a great desideratum, whether it be a Geranium, Verbena, Lobelia, or anything else. We are still very deficient of white flowering plants for the flower garden, though of white foliage we have plenty ; but in cold wet situations like mine, it seems wonderful that this Lobelia should have done so well. It is what may be called a white strain of Lobelia speciosa, and much praise is due to the Messrs. Veitch, of Chelsea, for sending out such an excellent variety. Never did the Committee of the Royal Horticultural Society award a better merited certificate. It is not to be expected that so great a flirt as the Lobelia is, should be in this instance, quite constant to color from seed ; yet, notwithstanding a few true blues which put in an appearance, it is remarkably pure—none of your half pink, half blue, and half-a-dozen other shades, but a white, as its name denotes, to perfection. Nothing can be more even in growth, standing from five to six inches high, of a semi-erect habit, and the whole mass a sheet of pure white. I certainly had some misgivings until I saw the first blooms, but then with much gratification I beheld a genuine white Lobelia."

An old Acacia, brought from America to Paris by Vespasian Robin, arborist to Louis 13th, 237 years ago, is sending out a new shoot from its trunk, having resisted the disastrous effects of last winter's extreme cold.

The Flower Garden.

Flower Garden for September.

THIS should be the gayest month in the year in this department, and the weather being dry and the nights cool in the early part of the season, in fact it has been very dry through July in many parts, although heavy storms and floods have prevailed in other parts of States; so that generally plants have not made so much growth as usual at the beginning of the season, and late planted ones have made no growth at all in many cases, but after the showers which have been very general during July, we judge there has been rapid progress and expect this month to be extra gay, as the beds and borders should be well filled without the plants being overgrown. The advantage of a good water supply both for turf and plants is this year very evident where it has been judiciously used.

Zonate Geraniums have been unusually fine with us this year, but they were planted early and the varieties selected, and only those planted in quantity which had given a fair amount of satisfaction in former seasons, excepting a few colors we could not well dispense with, and the new varieties on trial. We intend to give a selection for the end of the season, after a little more discarding. This is a good time for putting in a batch of cuttings; they will root freely either in open ground or on a bench of an open greenhouse, or in a well ventilated frame, and when rooted can either be potted in small pots or placed thick in boxes to be potted in the spring.

Verbenas.—Although our plants have grown and flowered well, the weather has been too dry for a very vigorous growth; many plants we have seen which were planted late, at the end of July, were little larger than when planted out. It is now time to cut down the stock plants and stir the soil round the roots; if very dry, give a good soaking of water and then top dress with good soil and rotten manure; this will induce fresh roots

and a good crop of clean, healthy young shoots, which make the best cuttings when about one inch in length, and can be pinched off with the finger and thumb and put in without further ceremony. A cool, shady, well ventilated house or frame is the best place for these cuttings, to be kept thoroughly moist and shaded from bright sunshine. They will be rooted in about a week, and can then be potted in small pots or packed into shallow boxes, to be kept as cool as possible through the winter, and will give abundance of cuttings in the spring.

Gladiolus.—If these plants have not received plenty of water, the flower stems have not been so fine as usual, but we expect those which flower this month will be unusually fine if the weather is not too hot. In shady positions where staking is necessary, it must not be neglected, for a sudden storm, just as the flowers are about to open, will break the stems down.

Cannas have not grown so fast as usual during the early part of the season, but are now making rapid progress. The dry weather did not prevent these plants flowering, for some of the varieties were in flower when not more than a foot high in June.

Celosia Huttonii, although not worth growing as a greenhouse plant, is a grand border plant; its bushy, compact growth and bronzy crimson foliage is very telling, and it is not like its close relative the *Amaranthus salicifolius*, disposed to die off just as its beauty commences to develop. The above plant can be either propagated from seeds or cuttings, which root freely.

Double Flowering Zinnias have been much recommended as a border plant, the flowers are certainly very double and some of the colors are very handsome, although the yellows are too much like double marygolds, but there is not flower enough for the mass of foliage, neither is the flower high enough above the plant to make any show besides leaves. In our dry sandy soil it has this fault, and we saw some large beds planted round the Treasury building at Washington, which were evidently watered each day, and

there was much more foliage than flowers, so it would be well not to occupy any prominent position with these plants.

Agaves and other succulents have been quite at home in the dry weather; we saw them used quite extensively for flower garden decorations in the hot, dry climate of St. Louis, which proves that we do not plant them nearly so extensively as we ought in this country generally; neither wind or sun trouble these plants in the least; in fact the more sun the better, and if planted out will not require watering for the season, and not every day if used for vases. The plants require but little attention in the winter if kept dry and free from frost.

Dahlias, Good Varieties.—The following are deemed best of a list of 200, exhibited at Rochester, N. Y.:—Aristides, Autumn Glow, Constance, Commander, Coconian, Copperhead, Flamingo, Fancy Boy, Flora Myatt, Firefly, Galatea, Gem of the Dwarfs, Glory of Summer, Golden Eagle, High Sheriff, Incomparable, Immortal, John Neville, Lady Paxton, Leah, Lady Popham, Little Firefly, Mrs. Miller, Oxonian, Reine de Prusse, Tabby Cat and Vice-President.

Hybrid Perpetuals Roses, Select List.—The following were exhibited by Ellwanger & Barry, at the New York State Fair, and are considered best out of a full list of over 100: *Twelve Dissimilar Blossoms (Hybrid Perpetuals)*.—Anne de Diesbach, Baronne de Maynard, Dr. Arnal, Geant des Batailles, General Washington, Joasine Hanet, John Hopper, La Reine, Maurice Bernardin, Pius IXth, Sydonie, Victor Verdier.

Twenty-four Dissimilar Blossoms (Hybrid Perpetuals).—Anne de Diesbach, Auguste Mie, Baronne de Maynard, Dr. Arnal, Duchesse de Cambaceres, Geant des Batailles, General Jacqueminot, General Washington, Joasine Hanet, John Hopper, La Reine, L'Enfant du Mt. Carmel, Madame Louis Carique, Madame Alfred de Rougemont, Maurice Bernardin, Pius IXth, Portland Blanche, Sou, de la Reine des Belges, Sy-

donie, Victor Verdier, Prince Albert. *Tea*: Marechal Niel. *Perpetual Moss*: Delille, Salet.

Dahlias.—A correspondent of the *Rural New Yorker*, says that if limited to *three named sorts*, she would take *La Phare*, bright scarlet; *Emily*, blush, with lilac tints; *Purity*, white. They make a bouquet in themselves, and are remarkably thrifty and free flowering.

Lilium Auratum, Prolific.—The same correspondent states that she has an Auratum bulb, which bore the second spring after planting *thirty-seven blossoms*. Who can beat it.

Magnolias.—The *Tribune* says, that to avoid failure in transplanting, set them out late in the spring; dig carefully; place the roots naturally, and use only fine, partially dry, sandy soil.

Geo. Ellwanger, in a letter to the *Utica Herald*, respecting the hardness of the Magnolias, says, that with the exception of the Evergreen species, all succeed well as far north as Rochester, and are annually covered with bloom. In Mr. Ellwanger's grounds they have been grown for more than a quarter of a century, and have proved as reliable as our native Oaks and Maples.

New Double Fuchsia—Champion of the World.—This is by far the largest fuchsia we possess. The foot stalks are of unusual length and strength, so that the flowers stand out boldly. The tube is short, the sepals are very broad and of great substance, well reflexed and of a most beautiful coral red. The corolla is of immense size, and as it expands forms two-thirds of a perfect ball, its color being of the most intensely bright, though dark purple. The plant is of fine growth, tall, and blooms abundantly, so that for conservatory decoration it is one of the most valuable fuchsias yet sent out.—*Gardener's Monthly*.

The beautiful scarlet geranium is the last novelty in the hothouse. It blossoms in bunches of four or five flowers which are like full carnations.

Gardening.

The Trumpet Creeper.

BY S. MILLER.

IN your Portfolio in the June number you refer among other things to the Trumpet Creeper and Morning Glory. Both favorites of mine from my youth; but which can be viewed here from very different standpoints.

Few things are more grand than to see a Trumpet Creeper cover an immense space of bare rock along our cliffs here. When in bloom and the sun shining, the sight is dazzling. Where the cliffs face the south, these show to the best advantage. I could show you them now, over one hundred feet high, covering a thousand square feet in all their glory.

This is the bright side; now for the other. When in late autumn you walk along beneath these naked cliffs, the Bignonia looks like a gray serpent attached to the wall, with here and there pods dangling and flapping against the rock, giving the already sad scene a more gloomy look.

But the worst is to come, when the husbandman is taken into account. These bursting seed pods send their contents out to the winds and are spread all over the bottom lands, where they are a most abominable nuisance. They come up in thousands and are almost invulnerable. Sythe, hoe, plough and all else seem unavailing for one or two years. And even if destroyed, one season's lying idle of land will fill it again.

The Morning Glory, of which we have millions on an acre, are pretty enough, but, where corn is to be cut in the fall, they are a little too much attached to the corn for convenience. To give you an idea of how weeds grow in these rich bottom lands, will tell you that up to this date I have cleared one patch five times this season and expect to give it two or three more.

Last season it was kept clean, but there seem to be seeds enough in the ground still. But if weeds grow, other things do also. Corn will grow fifteen feet high.

Bluffton, Mo.

Verbenas.

BY JOHN QUILL.

AMONG a collection of choice verbenas ordered last spring, we discovered one of the newer sorts, labeled *Hybrida*, presenting a vigor similar in character to none of its companions. The robust attitude and remarkable beauty exhibited by this new verbenas after a few months' cultivation, received the unanimous approbation of floral critics in this locality. And at the request of co-workers in the garden, we will attempt a plain description for *THE HORTICULTURIST*.

Branches from three and a half to four feet long, very strong and robust with a natural tendency to spread, and almost entirely covering the whole area of surface three to four feet from the center each way. Each branch divides itself at mid-way into lateral shoots, that keep pace in growth and vigor with the main branches, and spread in masses as they near the end. Numerous suckers form a bushy, upright column in the center, giving the whole a finish that is both unique and attractive. Leaves dark green, long and lanceolate, deeply veined, and of a thick, soft texture, edges deeply notched, each alternate notch larger and deeper, and tapering gently towards the top. Petals pure white, quite durable and shaped like the letter B.

The plant at the time of this writing displays forty-seven trusses of blossoms with almost a corresponding number hastening to maturity. Each truss averages from two and a half to three inches in diameter, and rounds off compact and solid like the large end of a very large egg.

An out-of-the-way corner of our flower garden is termed the reservation, where various kinds of bedding plants are sunk with pots in tan bark, and there reserved to fill vacancy, decorative purposes, etc. The tan bark is kept in continual moisture with strong solutions extracted from fresh manures, chicken mould, etc. A portion of this fluid is designed to soak through the pots and convey to the plants pure and moderate nourishment.

Scientists perhaps would be slow in approving this mode of artificial manuring. The

flower pots act the part of a very fine sieve in this case, only absorbing the purer substances from the strong solution poured outside through the porous sides of the pots.

The roots by this process receive a pure and invigorating food in a calm dewy vapor that is beneficial to the health, growth and blossoms of the plants. If the extract thus poured outside is not capable of keeping the roots moist enough, we apply pure unadulterated water sprinkled broadcast on the surface of the pots inside and outside.

V. *Hybrida* was detailed on the reserve and made rapid progress in a four-inch pot plunged in the tan bark. The gigantic and prolific proportions of branches, leaves and blossoms so astonished a fellow gardener, that he suggested something about transferring it into a basket. Capital idea, thought we, and V. *Hybrida* was accordingly removed into a basket. The new golden drooping basket plant *Lysimachia nummularia aurea*, was planted around the edges of the basket, and acted a noble part in filling the vacant interstices between the branches with its bright yellow foliage, and contrasting finely in sublime harmony with the dark green leaves and large blossoms of the verberna.

The weight of the foliage bends the strong verberna branches downward, and assumes a drooping pendulous character very picturesque in aspect and simplicity. The blossoms in large bunches on short, thick peduncles bend gently outward, giving the whole scene a finish both interesting and beautiful. When the blossoms show signs of decay, they are quickly removed together with the joint they emanated from. This causes the rudiment of young branches to force from the joints that will bloom by the time the older branches are getting exhausted.

Hints about Trees.

THE following hints are so good, we regret our inability to quote with proper credit, but give them as we found them:

For a border tree, hardy, erect, quick-growing, comely in outline and beautiful in foliage, nothing equals the rock or sugar maple. To

break the wind, for which they are very valuable, they should be set at first within twenty feet of each other, giving ample room, when sufficiently grown, for a full development by removing alternate trees. Trees which we took from the woods and helped to set, twenty years ago, are now, although much exposed to winds, fine specimens, nearly a foot in diameter. Why do not people grow more hedges of the native hemlock? There is no evergreen hedge that excels it in beauty. It has, especially in winter, a much more lively green than the arbor vitæ, and with its delicate, fine branching, has not the unsightly stiffness of the spruce. It stood the recent hard winter for evergreens better, so far as we could observe, than any other. We believe that the arbor vitæ has been much over-estimated. Unless constantly under the pruning shears, it is an awkward, loose-limbed tree, as may be observed by noticing the neglected specimens in any cemetery, where the hemlock or native spruce would form a handsome tree. Another tree which, for a permanent one, is, in our estimation, far inferior to its native relative, is the Norway spruce. It is a handsome tree when young, and has the advantage of quick growth, and, well trimmed, makes a fine hedge. But after a few years it grows tall, open-limbed, the foliage being weak and scant. The native spruce—the black variety is the better—in the same locality will be shorter, thick-limbed, with a dense, dark green foliage, showing a vigor and vitality which belongs to an indigenous tree. The native spruce will probably never be a favorite with the nurserymen, for the reason that its early growth is slow, not yielding a quick return. But the country pastures abound in beautiful specimens of this kind, limbing to the ground, symmetrical as a cone, which can be had for the taking, and, removed with the sod attached, they will grow right along as though undisturbed.

Ganargua Raspberry.—Knowing that you like to hear about all new things that promise well, I write you about the so-called “Hybrid Raspberry Ganargua.” I called at the farm of the introducer yesterday, and saw

two acres set last season—they are bearing two-thirds of a crop this season, and from one picking earlier than the Thornless—fully as large as Miami, of good fair quality for a red berry—firm and fully equal to or superior in productiveness to our best Black Caps—very strong grower and as they propagate from the tips, it promises to be a profitable and popular market berry.

J. B. JONES.

Transplanting Beets.—H. A. Tripp, Maine, writes the *New York Tribune*:—Seeing some inquiry about the transplanting of beets, I will give my method, which has never failed with me, nor within my knowledge. Make a hole in the ground two or three inches deep, fill it with water (if cold all the better), put the beet into it as far as you wish it to go, then fill in with dirt, pressing it firmly around the plant. That is all; so much and no more. This method might be too expensive and slow where the plants were started in a hot-bed; but where they are sowed in the bed in which they are to grow, I know of no way so good. I have transplanted them in this manner in a clear, hot, sunshiny day, with no loss. A garden trowel is the best tool to use in transplanting. I prefer to have the plants from two to four inches in height at the time. Last year I transplanted cabbages in the same manner that were not over two inches in height, and did not lose one.

Onion Maggot.—The *New England Farmer* mentions the successful practice of an onion grower at Salem, by planting the seed as deep as it will bear, as the young maggots can not go far down, and the root will have time to make a larger growth, and thus afford more food than they can devour.

Strawberry Fertilizer.—A writer in the *Rural New Yorker* says: “The following recipe was first tried years since, with apparently high satisfaction; the growth was vigorous, the crop abundant, and the berries large. It was therefore very highly commended as fitted to secure admirable results. Old beds, under the treatment suggested, are said to be even better than new. The proportions are for a bed thirty by forty feet. Commence

using the fertilizer when the new leaves are being put forth, and apply it towards night, three times, at intervals of a week between each application. It should be dissolved in thirty gallons of rain or river water. Indeed, if anything be varied from this, let the proportion of water be larger:

“Nitrate of potash, sulphate of soda (or ‘Glauber’s salts’), and sal soda—of each one pound; of muriate of ammonia, one-quarter of a pound. Keep the bed well weeded. Tried on old beds even, the results, as above hinted, are highly gratifying.”

Lima Beans.—A correspondent of the *Practical Farmer* gives some particulars about the raising of a large crop of Lima beans by a Pennsylvania farmer:

The ground was a low piece, which is frequently overflowed from a creek close by. It was manured broadcast with stable manure, and plowed in. No manure of any kind was used in the hills. Hills planted four feet apart each way, with four beans to each hill, which were made on the level surface, and covered one inch deep. Planted May 10, worked and kept clean with horse and cultivator; poles not put in till runners of beans were twelve to eighteen inches long. No pinching process was practiced, they being allowed to run at will, and made a very large growth, completely covering poles, and running from one to another. When the frost came and killed the vines, they were loaded down with beans quarter grown. The beans were not started in a hot-bed at all, and not soaked previous to planting.

Value of Walnut Timber.—As an illustration of the increasing value of walnut lumber, the *Indianapolis Journal* notes that the standing walnut trees on a half-section of land on Eel River, in Miami County, Ind., were recently sold to a lumber dealer for \$17,000. There is a large amount of other timber on the tract, which is not included, only the walnut timber being sold. Walnut lumber is coming more and more into use throughout this country and Europe, and at present a very large business is done in preparing and shipping it from Indiana.

Fruit Culture.

A Day with Charles Downing.

THERE is not much that is either new or interesting in pomology this season; in fact, there has been a dearth of novelties for several years past, and one's eye for new fruit begins to grow dim from want of use. A visit to-day from Mr. Charles Downing, the veteran pomologist, brought to mind the enthusiasm of former days, if not the objects which caused it, and we traveled over again in thought and words some of those old journeys in search of facts in regard to many of the once new but now old fruits of our gardens.

The name of Downing has been so long and intimately connected with American horticulture, that some of the younger members of the profession, who have been born since the fame of the Downing brothers was established, can hardly realize the fact that the elder of the two (Charles) is still in the field, doing an immense amount of labor towards purifying the nomenclature as well as for the general advancement of American Pomology. Few men have ever devoted their lives more unselfishly and constantly than Charles Downing to the good of a science which so directly benefits his fellow man; and as he was but 72 years old yesterday (and for aught that I can see to the contrary, as young as when I first knew him, a quarter of a century ago), we may hope that his days of usefulness are far from being over.

While musing thus, he reminds me, as he has often before, that time is passing and growing more precious to us all as we grow old, therefore a run through a part of the garden before dinner will be just so much saved from the work proposed after dinner.

Of course, I shall not attempt to report private conversation, but will remark, incidentally, that we first visited my currant patch, where I have every species and variety

of currant that will grow in this climate, besides some that won't without nursing. For a selection of six, I would name Red and White Dutch, Versailles, Cherry, White Grape and Victoria. The latter is a little later than the Red Dutch, otherwise no better. There are plenty of sorts equally as good as those named, but no better, consequently one gains nothing by adding them to a collection unless for the purpose of studying their peculiar characteristics. La Hative and La Fertile de Angers, resemble the Cherry in growth, leaf and color of fruit, but the bunches and berries are smaller. Champagne is a pretty pink or light rose colored sort, always appearing to be about half ripe. Glorie des Sablons is a striped variety, each berry distinctly striped with red, the ground color being a dull, yellowish white. I might go over the whole list in this manner, but the story has been told over and over again in our fruit books as well as in the horticultural papers.

"Nothing new among currants," said Mr. Downing, as we passed on to the raspberries; "but when you and I are gone, some young enthusiast will go over the same field and these varieties will be new to him and his associates."

An hour among the raspberries, which are exceedingly abundant this year, owing to favorable weather, enabled us to discover some of the strong as well as weak points in the old as well as newer sorts. Among the Black Caps, the Fay ranks first as a very early sort, and the fruit is of good size, firm, black, with very little bloom—a first-rate market sort, not becoming dull or of a faded color in rainy, damp weather, as usual with those covered with heavy bloom, like the Ontario and Mammoth Cluster. I may also remark that the canes of the "Fay" have very few thorns, which is another decided merit.

The "Surprise" is another very distinct and valuable variety, although not very generally known among the cultivators of small fruits. The berries are large and of a conical shape, which is quite unusual among the black raspberries. It is a strong and vigor-

ous grower and quite productive; berries firm, and with a slight bloom; ripening with the medium or late sorts.

"Elsie" is said to be a seedling of the last, but is so near like its parent, if not identical, that a distinct name is unnecessary. The older sorts still hold their own among the newer claimants for favor, and a man would have lost but little, except in prolonging the season, if he had never gone beyond the first sort introduced to notice, viz.,—Doolittle, or American Improved Black Cap.

Among the red raspberries there is really a less number of novelties than among the Black Caps. The Brandywine, which has of late attracted considerable attention, is a rather dwarf-growing native sort, with medium size bright red or scarlet berries, quite productive and plants very hardy—an excellent variety for localities where the foreign sorts will not thrive. The Baldwin, a new sort from Illinois, is hardy, moderately productive, but scarcely sufficiently distinct from the wild varieties to be found in the woods all through our Northern States. I have quite a number of what are known as "Herstine's Seedlings," but none appear to possess any special merit making them worthy of extended culture.

Of course I hope no one will consider Mr. Downing in any way responsible for my opinion as expressed above, because he happened to be with me during an examination of these fruits to-day, for probably both of us are too decidedly independent to allow another's taste or opinion to warp our own.

Although Mr. Downing has been a close student of pomology for a half century or more, he is as eager and ready to learn to-day as when he first begun, showing that egotism or self-conceit in regard to knowledge of any one subject has never as yet entered his mind. Fifty years is a long time to look forward to, but a very short period to look back over; hence the failure to accomplish much by those who are negligent or waste time while young, and the wisdom of those who are industrious even during an ordinary lifetime.—*Rural New Yorker*,

Peach Culture in Delaware.

Dr. David Stewart's system of Peach culture, as set forth in letters to the Chairman of the Executive Committee of the Central Delaware Fruit Growers' Association.

Planting.—He prefers fall planting, in rows twenty feet each way. Advises that the plow shall run twice in each furrow, and throws up subsoil from the crossing. Fills the hole with top soil slightly above the level of the field. Places the tree upon this mound and piles the top soil a foot over the roots; during the winter it will settle to a level with the surface.

Cutting Back.—Cut off the tree to the height of a walking cane, after it has put forth in the spring, but do not wound or depress its vitality while struggling for existence; allow it to get a start, and new roots to form, before subjecting it to the shock of decapitation. He applies a shovel full of strong ashes close around each tree every spring until the third or fourth year; also, as much more to the hills of corn between the trees, which crop by this treatment improves annually, whereas, by the usual practice, the corn crop deteriorates, and the trees are robbed, but do not manifest it until the fruiting season demands a special effort.

He has observed that the ashes produce no sensible effect upon the trees until the second year; but its effect upon the corn is distinct in a few days.

Soda refuse is worthless as a substitute for this purpose, and unless the ashes yield 12 per cent. of salts of potash—more should be used. Some that he has tested only yielded 4-11ths of 1 per cent.

Mulch.—He mulches his trees with coarse manure close around the trunk in the spring. Applying it in April after the buds swell and blossoms appear, but before the peach moth deposits its eggs. Immediately thereafter it should be "tied" to the tree by throwing a furrow towards the tree on two opposite sides; or, by shoveling the surface soil, so that the mulch embraces the stem a foot above the level of the ground. The peach moth, finding its way to the soft bark below the surface of

the earth bared by the mulch, deposits its eggs in the manure—where they either fall a prey to birds—or, the grubs are unable to penetrate the hard bark, and suffer the consequences of misplaced confidence in barking up the wrong tree. The peach tree is subject to many disorders, but it need not “have worms.”

Pruning.—During the first years the trees should be trained to assume the form of a wine glass, with open head. He then cuts back two opposite sides of the trees—removing all the bearing wood, and is enabled to plow close to the trees in the direction of the cutting. The orchard is thus plowed for two years, turning the furrows towards the trees. After two years the uncut sides of the trees are trimmed as before, and the plowing follows, turning the furrows towards the trees at right angles with the two previous years. This system of cutting back and plowing is alternated every two years.

The trees ordinarily present the appearance of being planted on mounds, whereas really, on level with surface soil. By following this system of mulching with manure and the use of ashes around the trees—the feeding roots do not extend beyond a few feet from the tree; the system of plowing also brings the top soil to the tree, and roots which extend into the poor soil beyond have always been observed to turn back to the manured circle around the trees. This is on the principle of manuring in the hill—instead of enriching the whole ground, which is virtually impracticable in this State.

Keeping Back the Buds.—In the fall, remove the earth with a spade from around the trees, but do not expose the roots, and cut a drain from the basin thus formed around each tree into the dead furrow beyond. This basin is filled up in the spring and the mulch applied, which tends to further retard the flow of sap as the season advances.

The buds on the peach tree, is an excrescence—put forth to anticipate the season, and is not necessary, and does not exist in the longer season of its native country, Persia.

But here the germ is projected beyond the bark and enclosed in its wrappings of vegetable tissue in order the more speedily to respond to the advance of the season.

The less the projection, and the thicker the tissue envelopes, the less the danger from late frosts and climate irregularities. It can hardly be said that when the temperature is below zero, any bud is safe; but, even then, the possibility of maintaining a higher temperature of the *germ*, under the protection of the bud, depends on its *size* and *thickness*, and this upon the vigor of the tree in its efforts to mature, even during winter months. In proportion as a tree is vigorous, it, like an animal, has a higher temperature than the air in winter; but when weak from insufficient nutrition it has less ability to resist cold—and not only the germ in the bud, but the whole fruit spur is frequently destroyed.

A small deficiency in the element of nutrition will turn the scale, precisely, as the death of a dozen old persons in a hospital is determined by a few degrees reduction of temperature in the night, while fifty in same ward survive, being more vigorous.

It has been demonstrated by the successful fruiting of an orchard during the past seven years, *without a single failure*, that the foregoing system offers every inducement, of certainty of crop, to those who choose to adopt it.

This system is based more upon the peculiar physiology of the peach in our climate, than on any specific to insure the fruit, and depends for its success upon the application of proper nutritious elements, and the judicious use of the knife, mulch and plow.

Soil for Fruits.—The *Gardeners' Monthly* gives briefly the following rules for selecting the best soils for the different fruits: “A light, dryish soil for the peach; a strong loamy soil for the pear; nearly the same for the plum; a heavy loam for the apple—if on limestone, all the better; and for the cherry a soil similar to that of the peach.”

Window Gardening.

House Plants.

PERHAPS every one is not aware that the coldest place in a room on a cloudy day or at night, is within a foot or so of the window, just where the plant stand is stationed. All dwellings cannot be new, and new ones are not always proof against the insidious attacks of cold. In the old ones the windows become loose with the wear and tear of years; there are cracks and crevices where a small current of cold air penetrates, and where the frost creeps in stealthily and seizes on the green leaves. To guard against this, I paste a narrow strip of paper (of a color corresponding with the paint in the room) over every aperture that admits a passage from the air without. The unsoiled margin of newspapers is very good for this purpose, as the texture is light and thin, and adheres readily to the wood. Give it a trial and prove the fact, only do not select a cold freezing day for the business. It saves the trouble of moving the plants at night, and assures their safety when the mercury drops low in the thermometer. Our climate is subject to sudden and unlooked-for changes, and often one night will destroy a whole winter's care and ruin hopeful prospects, even as late as March, when we deem our security good. It is well to be prepared for these emergencies or caprices of our latitude. Some complain of their plants growing spindling and weak, and yielding no bloom. One fault is, too high a temperature, with too much water a portion of the time during the day, and too low a one at night. When this is the case they grow sickly, and we hear the often-repeated complaint, "I can't keep plants, they don't do well; what do you do to yours? You want strong but growthy plants to secure bloom and beauty. Every day when I water, I turn my plants, and thus keep them even and shapely, by allowing every side the advantage of the sun. A slip will grow during the winter and become a large flowering plant in a four-inch pot, if

judiciously watered and cared for. Earthen pots without glaze are best, as they are porous, and absorb superfluous moisture.—*Ex.*

Mounting Ferns.

BY taking a little trouble, pretty pictures may often be made out of fern fronds, considered useless in the greenhouse, or, at all events, by the use of a few which may be cut off and never missed. After the ferns have been removed, they should be dried between sheets of botanical drying paper; even old newspapers or blotting paper will answer the purpose. Presuming that a collection of dried ferns is at hand, a sheet of nice card board should be procured; some like white card board, others, nicely tinted—which is the best. The ferns should then be laid lightly on it, and arranged in the form of a bouquet, or in whatever shape desired. The position of each fern should be indicated before it is glued down, as after that it could not be well removed without marking the card board. Supposing the fronds to have been arranged according to taste, they should be lifted up again, and their backs glued with a fine brush, so as to make them stick to the paper. Should any gold or silver varieties be amongst those selected, they should be placed so as to show the colors of the under sides of the fronds. The light colored Moss, which is to be found growing on old trunks of trees, if interspersed through the ferns, tends to give the arrangement light and elegant appearance. A wreath of ferns mounted in this way, has an effective appearance, if placed round or under a handsomely illuminated text. The fronds selected for mounting in this way, should be those of small and light looking varieties, as large and heavy growing fronds would make a small arrangement of this description look heavy. In this way a capital book of reference on ferns might be made up, each variety being mounted on a sheet of drawing paper or card board, and the name of the variety, height of growth, native country, etc.,

written under the fronds. It will be found astonishing how very quickly a collection of this kind can be got up as single fronds are easily obtained.—*The Garden.*

Plants for Ferneries.

A CORRESPONDENT of the *Gardeners' Record* gives the following list of desirable ferns for stocking ferneries:

First on the list is *P. plumula*, a rather dwarf growing fern, the fronds seldom attaining a greater height than from ten to twelve inches. Its habit, as its name specifies, is particularly graceful, and the color of the fronds very peculiar, being of a rich metallic green. It does extremely well planted among the chinks and crevices of rockwork, and in such situations increases itself rapidly. It succeeds well in a soil composed of light fibry peat, with a little leaf mould and silver sand added.

P. plebium, another very neat growing species, a native of Mexico, having fronds from six to eight inches long, of a bright green color. Similar soil to that recommended for *P. plumula* will be found suitable.

P. depanum and *P. trichodes* are two other species well worthy of cultivation.

Polystichum vestitum venustum.—This is an extremely beautiful fern and should be in every collection. It is a native of New Zealand, and is of easy cultivation and free growth.

And now we come to the genus *Pteris*, which furnishes us with numerous beautiful and interesting species.

P. arguta, a strong growing handsome fern, succeeding well almost under any circumstances, and growing freely in any open soil; should only be introduced where there is plenty of room.

P. argyræa.—A well known species, beautifully variegated. Like the preceding one, it is a strong grower and soon monopolizes more than its due share of room, still it should find a place in every fernery, as it is a most effective and charming plant. For soil

use two parts peat, one part loam, and half a part each charcoal and silver sand.

P. cretica alba-lineata, another popular variegated species, making a lovely contrast when planted among other ferns of a more sombre hue. Soil same as for *P. argyræa*.

P. longifolia, a particularly noble-looking and graceful fern, succeeds well under ordinary treatment, growing freely in fibry peat having a liberal admixture of silver sand.

P. serrulata, one of the most common, and at the same time one of the prettiest, in the whole genus, its bright, green, graceful fronds making it a most invaluable adjunct to every fernery. In fact, it is almost as necessary as *Adiantum cuneatum*, for cutting for bouquets and table decorations. It grows freely in almost any soil, but I have found it to do best in a compost consisting of two parts peat with one part loam, and one part leaf mould, and some silver sand. It and the preceding species will seed themselves over the fernery in a short time; indeed, I have often found them rather troublesome in this respect. There are several crested forms of *P. serrulata*, all of them being more or less beautiful.

P. tremula and *P. umbrosa* make noble specimen plants, but are altogether too robust, except for extensive ferneries where there is plenty of room to spare.

I fear to extend the list further, not but that there are hosts of others of equal beauty with those I have already named, but I consider I have drawn attention to a sufficient number for a beginner in fern growing to make a start with, and if to those he adds a few *Selaginellas*, such as *S. denticulata*, *S. Wildenorii*, *S. Africana*, *S. densa*, *S. stolonifera*, and *S. involvens*, he will have ample material wherewith to fully stock every portion of his fernery.

Ivy for Indoor Decoration.

I DO not know a single plant that will stand so much hard usage as Ivy. The only point on which cultivators err, is *not keeping the leaves clean*. If it be well washed two or

three times a week, and the soil well watered, it will grow for weeks, and even years, without danger from change of temperature. A vase, not necessarily costly, will answer well for Ivy; and this reminds me of an excellent plan of growing it in vases. Long shoots of the Ivy were procured, with the young and tender aerial roots very abundant. The lower ends were wrapped in moss, and then some five or six of these were lightly tied together at the bottom, and placed in the vase. The latter was filled within a few inches of the top with water, and the ball of moss suspended therein. Thus managed, the roots soon commence to grow; afterwards the moss need not quite reach the water, as the roots will extend down into it, and prove all-sufficient.

So many very beautiful varieties of Ivy are now in cultivation, that by selecting kinds that will form a decided contrast in shape and color, the effect may be materially heightened. The center of the vase may be filled with cut flowers or grasses, or, indeed, nothing would look better than ferns. The Ivy may be allowed to hang down over the sides of the vase in graceful festoons, or else trained over and around the window, thus making a room appear cheerful and pleasant all the winter through. It is not necessary, and in fact I do not believe that Ivy will grow as well in strong light as when it is in a partially shaded position, as it likes shade and an even, cool temperature. I have known instances where Ivy has been grown in large tubs and trained up a staircase, thus forming a mass of green foliage from the hall below to the floor above. Planted in a box, and run over a low trellis, it makes a lovely window screen even in towns; used in any way, as fancy directs, it is unexcelled as a house plant.—J. H., in *The Garden*.

Fern Cases.

ONE of the most charming modes of adorning the window is by the use of fern cases or ferneries. They consist simply of a basin holding earth, in which are planted the ferns, and the whole surmounted with a large circular glass shade. This subject has been re-

ferred to by Mr. Williams in "Window Gardening" in the following words:

"The fern case offers to us the very simplest of all means of household plant pleasures. Many who cannot afford a greenhouse or conservatory, or go to the expense of fitting up a plant cabinet, will find an abundant solace in this simple and inexpensive method of growing indoor plants.

"The uses of these small glass cases for plants are numerous. They occupy very little room, are usually ornamental enough to be placed on any table or parlor stand. When once filled, they need little or no attention for many weeks; require no unusual care as to watering; can be readily removed from one room to another; are not as quickly affected by changes of temperature as plants in the open air of our sitting-rooms.

"But a more favorable feature in their use is seen when we say that they afford the only successful means for obviating the effect of the dry, heated air of our dwellings. They are reached by no dust, are free from the noxious exhalations of coal-fires or gas-lights; and when a breath of cold air accidentally enters the room, they are not chilled nor frosted if the thermometer in the room should chance to go below 35 degrees. Their styles are so various and prices so reasonable that any one can be suited at prices of from \$3 to \$25.

"To any one living among the anxieties of a troublesome parlor garden which they cannot manage, there are but one or two satisfactory ways left for enjoyment. Either get a fern case or be satisfied with a simple hanging basket."

Flowers in Sand.—Many pretty little blossoms of bulbs of violets, primroses, and other spring flowers having short stalks, will keep fresh for a long time if each flower be pricked into a saucer or plate of wet sand. The great advantage of the sand over water used in the usual way, is that each bloom remains in its place just where fixed. It is a good idea to keep a flat glass dish filled as stated above, on the side board, and as the flowers decay, remove them, and stick in a few more in their places.

New and Rare Plants.

Cocos Weddelliana, though not a new plant, yet it is well worthy of an illustration, being, perhaps, the most elegant of all the smaller palms, of which so many charming species are now to be found in cultivation. Its slender, erect stem is not of rapid growth, but is freely furnished with its graceful arching leaves, made up of innumerable long, narrow pinnæ or segments of a rich green color.

Lilium Humboldtii.—The illustration figured on adjoining page is of the splendid new species lately discovered in Humboldt Co., California, which is attracting so much attention in England and America. It is quite hardy, produces large, yellow golden flowers, which are spotted with purple. It is highly appreciated in England, and received last year a first class certificate from the floral committee of the Royal Horticultural Society.

New Zonale Geranium, Orb of Day.—A superior variety of scarlet geraniums. The habit is dwarf and compact, and the foliage a peculiar shade of glossy green. The trusses of flowers are described as really enormous, measuring 18 to 20 inches in circumference, each flower nearly 2 inches in diameter, forming a perfect circle and of a deep, rich glowing scarlet. Messrs. Hovey & Co., who first offered it last year, state that after full trial, it can be recommended as among the very best of scarlet for bedding. "As a winter bloomer in our collection of over 200 varieties, including all the best kinds, this still stands unequalled in its free blooming quality, size of trusses, fine color, and perfection of flower."

New Rose, Peach Blossom.—This is a new hybrid perpetual variety recently illustrated in the *Florist*, of London. It is described as a large, full, and exquisitely shaped flower, the tint being that of a delicate peach blossom, a color impossible hitherto to obtain among hybrid perpetuals. The growth of the plant is vigorous, and the constitution hardy. On account of its color, hardiness, and free-

dom of growth and flowering, it promises to be of undoubted value as a decorative rose for the garden. It was raised by William Paul, of London, is a genuine seedling, and the best out of several thousands of seedlings; has been three years under trial, and has thus far proved constant in character and color.

Sweet Violet.—The *White Czar* is found by English gardeners a welcome addition on account of its color. Is of vigorous growth, and equally as large flowers as the well known blue-flowered type.

Spiraea japonica aurea variegata.—A beautiful form of the fine, green-leaved species, and greatly admired for its decorative effect. This plant is a hardy herbaceous perennial, with glossy, red-tinted stems, and triply three-lobed dark green leaves, richly traced throughout with gold colored veins. The flowers are produced in large, erect, densely-flowered, snow-white, plume-like racemes, thus forming an exceedingly graceful decorative table plant.

New Double Chinese Wistaria.—A new variety of the old familiar Wistaria has been introduced into America, similar in habit in all respects, except that its flowers are perfectly double, which gives the cluster a more compact appearance and presents a mass of bloom. It is one of the new acquisitions from Japan.

New Button-hole Rose.—The beautiful tea-scented rose, *Madame Francois Jamin*, which was certificated when exhibited at the second March meeting at South Kensington by Mr. H. Bennett, bids fair, according to the *Gardener's Magazine*, to become one of the most valuable of button-hole roses. The flowers, as shown by the example exhibited, are freely produced, and when in bud are of a rich shade or coppery orange. The buds are remarkably sweet, and of the most suitable size for making up into neat button-hole or ordinary bouquets. It certainly well deserved the award conferred upon it, and is likely to become very popular for the purpose here indicated.



Cocos Weddelliana.

*Lilium Humboldtii.*

Editor's Portfolio.

The Flower Mission.

In the cities of New York and Philadelphia, there have been in active operation this season, societies of ladies who have made it a pleasure and business to gather bouquets of flowers and distribute among the poor and sick in the public hospitals. Charitable individuals have contributed freely of both flowers and money, and the ladies their time to make the idea a genuine success. It is a labor of love, and thousands of blessings from the sufferers, testify to the appreciation in which the good work has been held. The following lines on this subject lately accompanied an engraving of a flower scene in *Harper's Weekly*:

Into the homes of sorrow and distress
The rare sweet flowers go to bud and bloom,
And with their own bright life make glad awhile
The lives that wither in perpetual gloom.
Poor hearts that long have starved for word of love,
Dim eyes that ne'er behold a beauteous thing,
And tired hands that stretch themselves in vain
For joys that ever from their grasp take wing.

To these the flowers on their mission go,
And breathe a fragrance fraught with new sweet life,
And cause an atmosphere of joy and peace
To enter e'er mid scenes of pain and strife.
Sweet buds of beauty! how they seem to say,
"Cheer up! cheer up!" there are kind hearts and true,
And though your paths seem over-grown with thorns
Yet there are flowers still which bloom for you.

A thousand blessings on the kindly hands
Which pluck the fragrant flowers for the poor,
A thousand blessings in the kindly feet
Which falter not, but go from door to door,
And leave with tender, loving charity
The sweet joy—breathing gifts of love divine.
Who knows what endless flowers of grace and truth,
The Flower Mission may hereafter twine.

Death of Mr. Olm.

We regret to hear of the death of Mr. Peter Olm, of Olm Brothers, Newark, N. J. An accident, resulting from a vicious horse, and violent throw from a wagon, produced injuries so severe as to cause death within a few hours. He was much esteemed for character and ability as a florist.

The Washington Pear.

We have cultivated and fruited this pear, and highly commended it for more than thirty years, the first specimen ripening in the

year 1836. We observe by the public journals that cultivators in many places are just awaking to an appreciation of its excellence. The tree is a handsome, although not a rampant grower, and is one of the earliest bearers, being excelled in this respect only by the Julienne and Bartlett. When well grown, the pear is handsome in appearance, the crimson dots on the side next the sun adding much to its beauty. In flavor it is very sweet and excellent. Its drawbacks are—it is not large enough for size to attain celebrity in market, and although very juicy and tender, it is rather breaking than buttery and melting in texture. It is one of the varieties that will flourish in almost any soil.—*Country Gentleman.*

A Remarkable Testimonial.

The practice of giving testimonials to manufactures of implements and fertilizers, has received a capital hit by the following, concerning a *remarkable manure*: "Dear Sir—The land composing my farm had hitherto been so poor that a Scotchman could not get a living off it, and so stony that we had to slice our potatoes and plant them edgeways; but hearing of your manure, I put some on a ten acre field surrounded by a railroad fence, and in the morning I found that the rocks had entirely disappeared, and a neat stone wall encircled the field, and the rails were split into firewood and piled up systematically in my back yard."

Government Seed Bugs.

Well, here is a "go," surely. Mr. Vick, the "*irrepressible people's favorite*," is authority for this statement: "We had a laugh—how could we help it, when we read in an order sent by the Great American Government to a seed house in London, special directions to "put the seed in papers as unlike those of American seed dealers as possible," and "to be sure and give the package a foreign aspect." These directions were thrice repeated. This is a pretty hard dose for American vanity, but here is a worse one: A few years ago the government would select some political favorite desirous of a trip to

Europe, give him several thousands of dollars for expenses, and something more to invest in seeds. This American seed ambassador, on the way, or on reaching Europe, would inquire for a leading seed house, tell the proprietor he had a certain amount to spend for seeds suited to American culture, look over a seed catalogue for half an hour, leave his money, order the seeds shipped to Washington as soon as ready, and then leave for a good time on the continent. A story is told in London that one of these government seed buyers entered a London seed shop while smoking a cigar, and rather lazily lounged on the edge of an open barrel of onion seed, when, happening to cast his eye down, he started in alarm, exclaiming, after a word or two that we shall not print, "I didn't know you kept gunpowder exposed in this careless way." Things now are a little different. The leading English and some of the French seed houses send over what we call drummers, but what they call commercial travelers, to solicit orders, and the first point these men make for, on their arrival, is the government seed shop at Washington, where they expect to make a good trade.

Gardening near Chicago.

A correspondent of the *Western Rural* says:—The gardening business is becoming yearly of greater and greater interest in and about Chicago. The German gardeners are paying as high as \$1,500 per acre for land for gardening purposes. For twelve miles or more out, the country about Chicago is being utilized for gardening purposes. This is more surely profitable than laying land off into suburban towns. Experiments in steam gardening are continually being pushed, and seems to promise success. Spring "garden truck" is grown in this way in advance even of the season in the Gulf States. The proprietor of the first steam garden is so well pleased with his experimental results that he intends enclosing three acres for next winter.

Some Pumpkins.

A new species of pumpkin is announced from the *Jardin d'Acclimatation* at Paris, under the Spanish name of "Zapallito de

tronco," or "Tree Pumpkin." It differs from all its congeners in its mode of growth, as, instead of trailing, it forms erect tufts, with numerous fruits of a depressed spherical shape, and from five to eight inches in diameter, depending from the stem. These are said to be of excellent quality and flavor. The chief merit of the plant, however, is that from its mode of growth, it occupies very little space in cultivation, while a single plant of any other species usually covers a large area. The seeds of the Tree-Pumpkin, here described, came from Buenos Ayres.

Best Trees for Western Tree Planting.

Mr. R. S. Elliott says, that from the combined experience of himself and S. T. Kelsey, the following four species of trees are the very best that can be recommended for Western tree planting: *Ailanthus*, *Catalpa*, *Black Locust* and *Black Walnut*.

Flowers in Florida.

A Floridian makes fun of us Northerners with our "posies" and ornamental plants, and says: There are *Cannas* here 9 feet high, and 40 feet in circumference of the bushes. There are many castor bean plants that grow 12 feet in a season. Roses grow here as rapidly, and are as healthy as our wild shrubs in the Northern States.

To Europe and Home again.

Horticulture sighs and misses some of her best sons who have spent the summer in a pleasure trip to the "old country." John J. Smith, Josiah Hoopes, P. T. Quinn and various others. It is really quite funny to behold them going on an excursion one season to the West, and the next year taking a long leap to the East.

Cranberry.

A correspondent of the *N. Y. Tribune* gives a severe chastising to the vender of the new *Cape Cod Cranberry*: I took up a circular the other day in which the vines of the famous Cape Cod cranberry, the best in the world, were advertised for sale. They are no better than others of the same kind found in other places, nor do they raise better cranberries in Cape Cod than in some other localities in this country. The nature of the ground on which

they grow determines the color, size, and quality of the berry. When we were about to set our grounds a person came to us with a sample of berry, and said that he had a new and superior kind and wished to sell us vines. At the rate he proposed it would have cost \$40,000 for vines enough to have set our ground, and in addition he wanted one-quarter of the net proceeds forever after. We did not accept the proposition. I was poor and the rest of the company were not, altogether green. We went to a neighboring swamp where we knew the vines were good, and obtained them for nothing. And what is the result? We have raised larger and finer berries than he ever did, or I think ever will. The Bell is the best kind to set.

"Is winter flooding indispensable?" I would not say indispensable, but very necessary. Good cranberries have been and can be raised without it, but the crops will not be as sure nor the grounds as permanent in bearing as with it. Flooding not only keeps the grass and weeds down, but destroys the insects and enriches the soil. I should always flood where I had the means, when it was not too expensive. One party in Cape Cod floods a ten acre plantation with one windmill. I will close by saying, let every one who has lands adapted to this business utilize them.

Suffolk Co., L. I.

S. LEE.

Cranberries.

As to the comparative merits of different varieties of cranberries, we supposed that no one would ever forsake the old Bell.

Mowing Strawberry Beds.

At our recommendation a gardener at Syracuse, N. Y., tried this plan and met with good success, and has communicated his experience as follows: For several years past, I have adopted the practice of mowing my strawberry beds at the period that the plant ceases to put forth new leaves, and the old ones look dry and rusty. This treatment prevents the production of runners to any great extent, the bed being renewed by offshoots from the crowns of the old roots. Usually by fall the plantation will exhibit

one mass of fresh-grown leaves. This treatment fails only when a dry and hot spell succeeds the mowing. I have never suffered but once in this way, when the beds were badly burned and thinned out. I did not lose them, however, as they afterwards revived, and though five or six years old, look, this season, like new beds. I am so well satisfied with this system, that I shall always continue it, taking the risk of having the operation defeated by a drouth, which after all only happens occasionally. With plenty of rain it succeeds perfectly.

A New Use for Coal Ashes.

A Geneva gardener has succeeded in keeping his currant and gooseberry bushes free from the currant worm by mulching heavily with coal ashes. The ashes also have another value not expected, viz.: keeping the ground cool and moist, so that even English gooseberries will bear heavy crops without sign of mildew. We judge also the use of coal ashes would be good for asters which need cool soil also.

Enormous Shipment of Strawberries.

The total amount of shipments of strawberries from the Delaware Peninsula to market during the spring season of 1874, amounted to no less than 665 car loads, or 5,280,000 quarts. Prices have been decidedly unremunerative—the supply has exceeded the demand, and there has been general gloom—the old story of the Vineland and Hammonton strawberry fever has been repeated, and we are glad of it. It is full time growers should learn that strawberries are not to be grown as extensively or as cheaply as potatoes, nor on as large a scale. No grower can clear any profit on berries at less than 10 cts. per quart.

The close of the season has its incidents—some of them humorous. The Seaford *Citizen* says: A gentleman who has devoted his time and labor in the shipment of strawberries this season cleared just \$1.00 over and above his entire expenses. Another man, who was largely engaged in growing and shipping finds himself \$13.00 in debt.

An Old Elm.

The oldest Elm in Vermont is at Vernon Centre, and is still growing thriftily. An old gentleman in the neighborhood distinctly remembers seeing a load of lumber drawn over it, and seeing the rubbed sapling spring back into place. This was more than 80 years ago, and that sapling is now six feet four inches in diameter.

The Eucalyptus.

The *Eucalyptus globulus*, or blue gum tree in California, has a fine representative in a noble tree on the grounds of Gen. Vall  ho, at Sonoma, Cal. It was but nine years old, and when felled the other day, measured 96 feet from top to roots. Four feet from the roots the trunk was sawed off, and found to be 19 inches in diameter.

A Pretty Parlor Vine—The Cob  a scandens.

We have often thought of writing a word encouraging attention to this as the best vine for parlor gardening we know, but we are intercepted by a correspondent of Mr. Vick, and we will let him tell his experience: "Readers may be interested in the information that the *Cob  a scandens* thrives well in the living room of our dwellings, provided it has equal temperature, light and sunshine, all of which we should find in every living room, if we would have it healthy. I have had a *Cob  a* during the past two winters planted in an oblong rustic box on legs, four feet long, one foot deep, and twenty inches wide, filled with soil from an old hot-bed, where it makes a wonderful growth, and a beautiful bower of the bay window, trained up the frames of the middle window to the top, and from there on cords to a nail in the center of the arch, thence around the arch, and several feet on each side over pictures. In an East or South exposure it will bear many of its large bell-shaped purple flowers during the latter part of the winter; but I admire the bright yellow green, divided leaves, silky tendrils, and general graceful effect of the plant, as well as the flowers.

My friends accuse me of dealing in magic, but you know the secret is in providing the conditions required, viz.: temperature and

soil, plenty of light and sunshine, air by lowering the windows very little when not uncomfortable to those occupying the room, and last, but not least, judicious watering, that is, not to let it wither for want of water, nor water so frequently as to keep the soil in a muddy state, and in that way make the earth sour, and thus rot the roots. I find such as are classed as hot-house plants thrive better in the dry atmosphere of furnace-heated rooms than those growing in cooler temperature. For the sake of health our living room is heated by a low-down grate, thus relieving us of dust and dry air, and we have no gas, which is, perhaps, the secret of my plants growing so easily." K. H. B.

Earth Worms in Pots.

These are exceedingly troublesome to window gardeners, and often neither tobacco water nor lime water will kill them. We observed that another correspondent of Mr. Vick tried a new remedy, and was more successful. "At last, I put ten drops of carbolic acid in a pint of water, and poured that on the earth in the pots, and it acted like a charm, killed all the worms, and the plants began to improve at once. It has been three weeks since it was applied, and they are all in a nice growing condition, and I think that is time enough to show what it will do."

Curious Habits of Plants.

"Some Orchids, whether wild ones, such as Ladies Tresses, or those various and more gorgeous ones, mostly air plants of tropical regions, which adorn rich conservatories, curiously resemble butterflies, either a swarm of them, as some of the smaller ones in a cluster on a long, light stalk, fluttering with every breath of air; some are like a large, single, gorgeous orange and spotted butterfly; another takes its name from the resemblance of its flowers to a moth. Can the likeness be a sort of decoy to allure the very kinds of insect that are wanted for fertilizing these flowers? * * When a fresh and active tendril in climbing comes in contact with a neighboring stalk, or any similar support, it hooks or coils its end round it,

then having secured a hold, it shortens by coiling up its whole length, or a good part of it. This commonly draws up the climbing stem, nearer to its support, and makes it easier for the younger tendrils above to gain their hold. A tendril which has taken hold and coiled up, usually becomes stouter, rigid, and much stronger than it was before. One which would break with an ounce weight, becomes capable of supporting two or three pounds."—*Prof. Gray.*

Grape Culture in California.

The grape fever on the Pacific coast has been carried to as great excess as the strawberry fever on the Atlantic. We see it now announced in Pacific journals, that in some parts grape culture has become so unprofitable, particularly Los Angeles county, that the growers are tearing out the vines and planting orange trees in their place. One noteworthy vineyard, the Wolfskill, 35 years old, is said to have been kept up for some time past at a loss to its proprietor of about \$2,000 per annum. Others in the same neighborhood have yielded no profit—a statement which will readily be believed when it is remembered that the grapes sold last season at from 50 to 65 cents per hundred pounds, a price barely covering the cost of production. Great expectations are entertained of success with the orange (some experiments in raising them having proved very remunerative), and we trust they will be fully realized.

Spruce Cone Ornament.

One of the prettiest objects I ever beheld is a spruce cone filled with sand and grass seed, which sprouted and grew out of the scales. It is now as large as a cocoanut with the husk on, and of the most vivid green color. The grass grows with a luxuriance that is remarkable. To produce this charming specimen, the cone was baked in an oven till the scales opened out equally. It was then carefully filled with equal parts of sand and grass seed, a string tied to the tuft, and the whole suspended in the dark in a jar with water enough to come half way over the cone. In a week it was placed in the sunlight, when

the seeds sprouted rapidly, and in a month filled a gallon jar completely. It has been taken out and hung in the window exposed to the air of the room. Every morning it is thoroughly soaked in tepid water.—*Tribune.*

Green Lanes.

England surpasses the world in the peculiar beauty of her green lanes. Italy has its skies; Greece its classic ruins; Egypt its pyramids; Switzerland its Alps; Germany its Rhine; America its Niagara; but none of these has a green lane such as there are thousands of in England. The green lane is essentially English, and is confined to England. There are green lanes neither in Scotland nor Ireland, we mean grassy roads, arrayed in greenery, shaded by lofty old hedges, Beach trees, alders or willows, leading to some quiet cot or farm house, or range of pasture lands, and often leading one merely to some other green lanes or series of lanes branching off to right or left, which are there seemingly without any other purpose than that they are there to feast the eyes of country strollers with the sight of their quiet green beauty."

Largest Peach Orchard in the World.

Shellcross, who resides near Middletown, Delaware, owns the largest peach orchard in the world. Last year he shipped to New York 125,000 baskets of fruit, and it is estimated that he lost, by being unable to procure labor to pick, about 25,000 baskets more. On several days he loaded from his orchard ten car loads.

Mr. Shellcross' orchard reaches along the public road for more than eight miles—generally on either side—and covers an extent of upwards of 1,000 acres; on which is growing more than 100,000 trees. The land on which Mr. Shellcross' trees are planted is worth \$150,000.

Flemish Beauty.

W. H. Ragan has pears of the Flemish Beauty variety, grown by his father at Fillmore, Putnam county, Indiana, which grew upon a tree that has for the last seven years yielded fruit, the average sales of which amounted to two hundred and one dollars per year, besides what was required for family use.

Popular Science.

Effect of Coal Gas on Plants.—A small landholder on the continent, says the *Moniteur Horticole Belge*, not having a conservatory at his disposal, wintered his plants in a cellar, as is often done. Here, with a little attention, he succeeded in keeping them in tolerably good condition, when an escape of gas occurred from a defective pipe, which was unnoticed for some time. Its effect on the plants was most disastrous, causing the leaves to fall even before they had time to turn yellow. The foliage of *Pittosporum* in particular suffered, being completely destroyed in about twenty-four hours from the first escape of the gas.

Length of Thread in Silk Worm Cocoons.—According to the statement of C. V. Riley, St. Louis, the length of the thread in the cocoon of a mulberry silk worm is generally 1,000 yards, and a mile of it weighs $15\frac{1}{2}$ grains.

Scientific Degrees.—The University of Edinburgh has issued a regulation to the effect, that candidates for the degree of *Doctor of Science* shall be required to submit a thesis containing some original research before they are permitted to proceed to examination.

Poetic Effusions vs. Botanical Facts.—The practical man of the *N. Y. Independent* thus criticises a communication from a poetical contributor whose botanical education had been neglected:

When you drew a picture of a forest haunt in summer, I tried to imagine and see what you described. I immediately got into confusion. It sounded well; but, botanically, it was all awry. You drew it from your imagination, or rather from the poetry of your reading, and not from nature. I don't know scenery in your region very well; but (1) I doubt somewhat if the "firs," "willows," "aspens," "oaks" and "dogwood" grow together. (2) I doubt those "daisies" in "summer" on the "slope." But it is possible. (3) There is no "heather" in the United

States, except a very little at Tewkesbury, Mass. (4) If there were heather on that "side-hill" it would be a dry hill, and it would be "brake" and not "fern." (5) "Daffodils" do not grow on side-hills or anywhere else except in gardens. (6) Of all green, "emerald" is the very last to describe "willows," which are a very light, whitish green. "Dogwood" blooms in "snow bowers," never in summer, only in early spring. (7) Your "woodbine's golden bell" may be right if you mean what is commonly called honeysuckle. (8) What the "amber" dropped in summer by the poplar is, I cannot tell.

Health from Flowers.—It is reported that an Italian professor has discovered that perfumes from flowers have a chemical effect on the atmosphere, converting its oxygen into ozone, and thus increasing its health-imparting power. As the result of his researches he states that essences of cherry, laurel, lavender, mint, juniper, melons, fennel, and bergamot are among those which develop the largest quantities of ozone, while anise and thyme develop it in a less degree. Flowers destitute of perfume have no such effect. He recommends that dwellers in marshy localities and near places infected with animal emanations should surround their homes with a profusion of the most odoriferous flowers.

Destruction of Trees in England.—The destruction of trees in England is attracting some discussion. A distinguished member of the Cheshire Board of Agriculture, at a recent meeting, expressed the opinion that if the practice of destroying trees and hedges went on at the present rate, there would be no shade left, and "the cows would have to carry parasols."

Drain Pipes.—Where drain pipes in fields have been coated with gas-tar, all difficulty about choking with roots is avoided; for the roots turn away from the tar as though they were sensible of their danger.

Thirty barrels of blackberry wine brought a Carroll Co., Ky., man, \$1,575. The wine was made at odd times last summer.



A GARDEN AVIARY AND BORDER OF FLOWERS.



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Greenhouse for October.

IF any pot plants remain outside, have them housed at once. We may expect sharp night frosts and heavy rains at any time after this, which would damage even the most hardy plants in pots. The house may be now arranged for the winter, so far as regards the larger plants. See that all pots are clean and the surface soil renewed. It gives the plants a neat appearance and is also of benefit. Do not crowd the plants; it is better to weed out some of the most useless and throw them away, than to spoil the effect by throwing all away for the sake of keeping a few which are of little or no use. If plants are in health they become larger each year, and necessarily occupy more space, so that where houses are limited, some plants must be sacrificed each year, and in most instances with advantage. Shading should be generally dispensed with by this time, except over such plants as delicate Ferns and Marantas or tender flowering plants which are wished to last as long as possible.

Chrys-anthemums of the late flowering varieties, such as *Laciniatum*, are useful for

cut flowers if protected from frost, and look well mixed with other greenhouse plants, but if short of room, can be protected in a cold frame. The plants are hardy, but a moderate frost spoils the flowers.

Pot Roses must be protected from sharp frosts and heavy rains. A few of the Tea and China varieties, which are well established, should be placed in a warm part of the house for early flowering, the remainder can be protected in a cold frame, and if the pots are plunged, will not require water for months.

Climbers on roof must be cut in considerably if they have been allowed to grow freely during the summer. At this season the shade would not be desirable.

Bulbs for flowering in pots during the winter and spring should be obtained at once and potted, for unless the pots are well filled with roots before the tops commence to grow, the flowers will be poor. Single varieties of both Tulips and Hyacinths are best for very early flowering, but the small Roman Hyacinth is the best for flowering from November to January. If Hyacinths are required in large quantities for cut flowers, the most

simple plan is to place a number of bulbs in boxes of soil to be treated the same as pots; boxes occupy much less room, but when only required for greenhouse or room decorations, pots are most useful, while glasses are the neatest for rooms only, and require no soil; any lady can attend to them without soiling her hands. Of late years there have been very tasty hyacinth glasses manufactured, which are great improvements on those formerly used. We place a small lump of charcoal in each glass, it prevents the water from becoming unpleasant, and the only other attention required is to add a little more water occasionally, for after the roots become active, they absorb a considerable quantity. A pinch of guano in each glass just before the flowers open, adds to the size and color of the bloom; this is not desirable unless the glass is opaque. The charcoal prevents any unpleasant smell. When potting bulbs, use six-inch pots for hyacinths, and place a single bulb in centre of each pot with about a third of the bulb above the level of the soil; the soil requires making quite firm in the pots; if this is not done the bulb will be often lifted out of the pot when it commences to root freely. Tulips are best potted fine bulbs in from four to six-inch pots according to the size of bulbs; when a large quantity is grown, it is a good plan to adopt the system of the growers for the London market; that is, to place a number of bulbs of one variety in shallow boxes, and to grow them in boxes until the flower stem is considerably advanced, then shake them carefully out and pot into five-inch pots, selecting those equally advanced to place together in a pot, and also in each batch of pots for market, so that when seen together in Covent Garden market, each pot is the exact copy of its neighbor, so that no selecting is required to pick out the most advanced or the best bloomed pot full. This is especially serviceable for market, for under the best management it is usual to find some bulbs in the same pot several days more advanced than others, which gives the pots an unequal appearance, especially early in the season when the bulbs are forced forward in

the heat; the late ones, which come in flower naturally in a low temperature, generally open more equally.

Crocuses are best grown in fancy pots or pans; the old-fashioned pot, shaped like hedgehog, is well enough; the young buds peeping through the holes representing the spine, or where baskets may be used, the sides filled with moss; a half globe turned upside down is very pretty for this purpose; a moderate sized basket is best, the plants being small and dwarf.

The pretty little blue *Scillas* are very useful among forced bulbs, placed seven or eight bulbs in a four-inch pot. The best soil for potting bulbs is half loam and half rotten manure, with enough gritty sand to keep it open; a pinch of soot is good over the drainage, being a good stimulant and preventing worms from entering the pots. After potting place the plants in a cold frame or the moist part of a cellar, and cover with six inches of coal ashes; the pots will then get well filled with roots in a short time, and can be removed to the greenhouse a few at a time as required.

Lift and pot sufficient plants of *Deutzia gracilis*, *Spirea Japonica*, and a few plants of *Spirea palmata*, which have been recommended for forcing in the English gardening periodicals. These plants can be kept in a cold frame until required in the greenhouse, and although hardy, cannot be lifted from the open ground when frozen.

If any tuberoses which have not flowered remain in the ground, they must at once be taken up, dried and placed in a warm position for next year's flowering; any place which preserves *Caladium* bulbs well, is good for keeping tuberoses through the winter.

Caladiums should now be generally at rest; if any late plants are still growing, withhold water to induce them to die down as soon as possible; it is a mistake to allow these plants to continue growing late in the winter, the bulbs are subject to rot, and if not, they start weak the following year; the pots can be set away in a place where the temperature does not fall below sixty, but not to be

roasted in a perfect dry place or the bulbs sometimes decay with dry rot. Gloxineas and Achimenes will be generally at rest, and should be treated the same as Caladiums. Winter blooming Fuchsias should have a light, warm part of the house, and be occasionally watered with manure water.

Pelargoniums should be now growing freely, and will require more water with a light position and plenty of ventilation.

Callas will have pots well filled with roots and be growing freely, will require abundance of water; if green fly appears, either fumigate with tobacco or sponge them off with some weak tobacco water; a few of the most forward should be placed at the warmest part of the house for early flowering.

Poinsettias must have a good light place in the warmest part of the house, but well ventilated until the weather becomes cold. These plants will flower well in a temperature of 55 to 60, but if large bracts are desired, a temperature of 65 is required; the plants can be removed to a more moderate heat free from draughts when fully developed, they will then last in full beauty much longer; we obtain heads of bloom from twenty inches to two feet in diameter by this treatment. *Euphorbia Jacquinieflora* requires the same treatment.

Aphelandra Roezli is a charming winter flowering plant, and can be flowered satisfactory in three-inch pots—its brilliant spikes of orange-scarlet flowers are very ornamental. We have not yet flowered *niteæ*, which is said to be the same color, but the beautiful dark varnished foliage is wonderfully fine, and quite different from anything we have before seen; this species is at present scarce and dear, but when better known will be very extensively grown.

Alocasia must be kept in the hottest part of the house. It must be recollected that these plants are evergreen, with the exception of *Jenningsii* and if allowed to lose the foliage like Caladiums, the plants will be much weakened and probably die. These plants are wonderful, telling at all times when well grown; the large metallic leaves

in some, such as *Metallica*, *Veitchii*, *Intermedia*, *Lowii* and *Sedenii*; the last we consider the best; it is a vigorous grower and makes a specimen in a short time. The beautiful mottled leaf stalk of *Zebrina*, and the spotted and marble leaves of *Macrorrhiza variegata* is very beautiful, and usually attracts the attention of the most ignorant observer, for it seems so strange to see some leaves spotted with white, others half white and the other half green, and again, other leaves pure white. This plant is subject to red spider, and requires frequent sponging to keep it free.

Eucharis Amazonica must be kept in the warmest part of the house, and not allowed to suffer for want of water. It must be remembered that this plant is a native of the hot, moist valleys near the equator, where plants are in full growth all the year. We have no doubt that many people are under the impression that, because it is a bulb it is necessary to keep it dry and lose the foliage; this, and want of heat, is, no doubt, the reason so many people complain that it is difficult to flower. We have them in flower all the year round, from plants in three-inch pots up to large tubs.

Gesnerie of the *Zebrina* class must be kept warm and be well supplied with water; the foliage of these plants is beautiful, independent of the flowers, which are various shades of orange and scarlet, and very showy.

Azaleas and *Camellias* should be placed in a cool part of the house, with the exception of young azaleas which are best in a temperature of 55 to 60 if convenient; they make much better plants in a shorter time than when placed in a cold house; watering must be carefully attended to, for although less is required at this season than when plants are in full growth, the plants require careful attention, or some will become dust dry and much injured if not killed.

Ferns and *Lycopodiums* when grown with other plants, will, at this season, when less shade is used, be liable to become dry quicker than in the summer, and must be frequently examined, more especially those

grown in baskets, for sudden checks from heat to cold and drying atmosphere, will often bring on a full crop of insects which will take much trouble to destroy.

It is not too late to propagate verbenas of any varieties which may be scarce, but plants rooted last month will be best, and furnish most cuttings in the spring. Keep these plants as cool as possible; a few degrees of frost will do less harm than a hot, dry house. It is well to give a fumigating with tobacco once a week, as a preventive of insects.

Heliotrope for cut flowers and early cuttings require a warmer place than verbenas, for if not kept rather dry, the plants are apt to die during winter.

Coleus, *Alternantheras* *Collosiae* also require a temperature not below 50; if placed in a cold, damp house many will die, and the cuttings in the spring will be poor and scarce.

Tube Roses required to flower during the winter, must be kept in the hottest part of the house, and not allowed to become dry at the bottom, or the buds shrivel up without opening. We mention this because the plants are often placed over the pipes and will become very dry at the bottom where all the roots are, while the surface is quite wet.

Succulents, such as *Echeverias* and *Sempervivums*, if wintered in cold frames will not require water, and *Aloes* and *Cactus* but seldom, in a cool house at this season.

Begonia sanguinea is recommended by Robert Buist, as a very attractive window plant, and should be in every collection, large and small. The flowers are pure white, leaves blood colored.

The White Lilac is sold by the million in Paris, and is, next to the violet, the most popular flower. It is simply the common variety of lilac forced into bloom into the dark, and the blossoms are blanched perfectly pure white. Care is taken to avoid even ventilation, for one grower in Paris found when that was resorted to the flowers exhibited a tendency to assume their natural

color. The houses are first quite cool, then the heat is gradually increased up to 80° and 100°. Abundance of moisture is supplied in the meantime, and not a gleam of light allowed to penetrate the glasses which are kept covered with straw mats.

Hydrangea acuminata.—A beautiful shrub with this name has just been introduced in Paris, and figured in a colored frontispiece of the *Revue Horticole*. It is a very hardy, vigorous growing and handsome species. The umbel bears on its outer margin, a single row of large sterile flowers, the petals of which are of a fine rose color, and are cut or scalloped on the anterior edge. The centre of the umbel contains a great number of very small fertile flowers, the color of which is of a much deeper rose. This species thrives well in the open sunshine.

An Immense Bouquet.—At a recent exhibition at Chiselmhurst, Eng., an immense bouquet of violets was put on exhibition; it measured 3 feet in height, and 2½ yards in circumference at its broadest part. It was composed of dark and light colored violets, surrounded with leaves of the same flowers, and around the centre is a circle of flowering heather, emblematic of the Scottish descent of the late Empress.

Cytisus fragrans.—This is recommended by *The Garden* as one of the prettiest of all early spring blooming plants, and deserves to be more extensively grown than it is for this purpose. It bears an abundant supply of sweet-scented yellow flowers, and is easily grown in any ordinary apartment. All the attention it requires is to cut it down after flowering, and either to syringe or sprinkle the plant every day while making its young growth. It does well in any room window if protected from frost.

Andrew S. Fuller thinks the *Herstine* is likely to prove one of the best, if not the best of our native raspberries. It is early as any of the real varieties, fruit large, and with him in New Jersey, it is this year bearing abundantly.

Travel.

Gardening in Europe and Austria.

DR. J. A. Warder, of Ohio, was appointed to represent the United States Department of Agriculture at the Vienna Exhibition. In a recent address before the Ohio State Horticultural Society, he spoke of the condition of horticultural interests.

Vienna Exposition.—There was a quarter section of land appropriated, immediately in front of the Industrial Palace. You must understand that it had been a park, and had been held for that purpose for one hundred years, belonging to the crown, though the property of the people, and given entirely up to them for their use. The soil is what in this country is called bottom land, or the river valley land of the Danube.

The streets are sixty feet in width, and are lined with double rows of horse-chestnuts. Along these avenues are beer stands, and all the German people drink beer, but I never saw any of them intoxicated. This beautiful section was grandly presented by the architectural background.

I was pleased to see the introduction of so very many of our own trees, yet the beautiful tints that many of our trees take in autumn were not seen there. In the midst of all this is a beautiful lawn—and here we may take a lesson from the grass that was sown upon well-prepared ground—and the name of the person who prepared the mixture of seed that was sown was affixed upon the card. The ground was well prepared, but the thick sowing, and water plentifully applied, in a very short time made it green and beautiful; and while the soil was so loose that you might not walk upon it without sinking, the men went ahead with great shoes, like snow shoes, and cut the grass, and the women came after and gathered it up. The water was the great thing. Many beautiful fountains—very large—projected very high, and when a dash of wind came we frequently got a ducking.

Another beautiful feature was their five-fingered creeper, creeping about in the same bright color that it has in this country, and reminded me of home.

The Doctor gave a full description of the appearance of the various forms of the gardening landscapes and of the variegated beds of flowers and plants in all forms and colors, so that the listener could have almost looked down into the fine garden. He said the leaves of many of the plants were yellow, still there seemed to be to him little beauty in these, as they appeared in decline, but to him was nothing so beautiful as green, though it were in any shade. He traveled elsewhere in Europe, and found that the people were great lovers of plants and flowers, and frequently you could see a man with a bushel of earth on his back, and filled with plants, going from door to door, selling them; and everywhere, in almost every house, you might see plants and flowers.

Forestry in Europe.—We sometimes have an idea that Europe is not well wooded, but on account of the small farms, there seems to be, when you look across the country, more wood than there is in fact. The trees are planted along the canal, and streets in Belgium, in straight lines, so that there is not the appearance of being so thickly wooded as are the British Isles. In Holland the tree most common is one almost exactly similar to the common cotton wood. In some of the more southerly countries the black locust tree is the most frequently seen, and everywhere the trees planted are arranged in straight rows. Along the Lower Rhine forest trees were principally confined to sides of the highways and to refuse land on the hills. Higher up the valley more trees on the hills were to be seen. He noticed the care that was taken when earth was taken from land bordering on the railroad to make "fills," how such furrowed out places were carefully scraped and leveled, and planted to trees. There seems to be a sleepless care that no land shall be permitted to lie waste—that all shall be utilized. The trees thus planted by the railroad authorities were the American black

locust, and are destined to furnish "sleepers" for the road as they are wanted. This admirable practice might be advantageously copied by railroads in this country. But not until you approach Bavaria do you seem to get into the great forests. These belong to the commons or cloister. Nearly every village has its common, where everybody has an equal right to cut wood or use other fuel that may be there. The trees are planted in rows four feet apart, in well prepared soil; but they do not try to cultivate rapidly; the people say that they will grow up in a hundred years, and they are satisfied with that. They do not allow any stock to injure the trees, and the young pines, especially, are allowed to grow very thickly. They make furrows, and the seeds float along from the parent tree and lodge in furrows; therefore, they come up in rows. They usually allow one or more trees to stand to cast the seed that will stock the ground anew, and also to protect the young trees coming on. I found but few kinds of trees in their forests. I found thirty-six kinds of American trees in their parks, but none of them in their forests. Where the Scotch pine is carefully started, it grows straight up, and is usually ready to cut in about fifty years. It is valuable for timber. The Austrian pine is used to obtain tar, and is scarified and drained about ten years before it is cut down for timber. The silver fir, of Bohemia, makes a magnificent tree, and some of you who are musicians may be curious to learn that your music boards are made from this silver fir tree, and are shipped to this and other countries. The Norway pine is more largely grown than any other tree. A small pine is found in large quantity in Italy, but is little used. The European larch, which though a conifer is not an evergreen, is a beautiful tree, and might well be used where durability is desired, though there seems to be a very popular prejudice against its use. These trees named are the only conifers found to any extent in Europe, though the beech, birch, iron wood, ash, oak and maple are found in moderate supply. But very few of our American white pine trees are to be found, but wherever they

have been cultivated they grow very large, exceeding in size almost every other variety of timber. The beech grows on low lands, and is used usually for fuel. The felloes and spokes of wheels are made from this wood.

The ash tree of Europe is tall and beautiful. The birch is not confined to water banks, as here. It is a short-lived tree, and is usually removed within about sixty years. Many acres of waste land are being planted with Scotch pine. There are in Austria two kinds of forests, called the high forests and the low forests. The beech and oak are used to plant the low forests, and pine for the high forests.

There are for forest purposes but two kinds of maple; seldom saw any American maple. All stock is kept out of the forests, so that there is a very thick undergrowth; but in the pines the forest is so thick that the sun cannot peep in, and no undergrowth will appear, but the needles drop from the tree and form a nice carpet. One of the difficulties is wind storms. I saw a wood of 3,000 acres that had been broken down, and all the trees near the wind-fall are shaken, and insects take hold of them and destroy them, and therefore the forester comes and saws them down, for they do not chop down trees there with axes. A fine display at the exposition was Prince Albert's collection of the insects that destroy the forests, together with a full description of their habits and effects upon the various timbers.

General Reflections on what he saw.
—Where oaks were grown expressly for timber, there was observed an admirable usage of planting beech trees among the oaks. The oaks were first planted out eight by twelve feet apart. In a few years thereafter, when the young oak trees had got well started, the intervening space was planted rather thickly with beech trees, whose rapid growth forced the oak trees ever upward, and by the crowding process served to prune off all lateral limbs. He had observed that the oak forests of England, planted alone, required a great deal of pruning.

Forests in Europe belonged mostly to the governments. Some, however, belonged to the dukes, some to church institutions, and

some to the "burgs," or communities. But the State passes laws regulating forests, whether belonging to itself or others. For instance, when the trees are removed from any forest lands, the law is that the same ground shall be replanted to trees within five years. In reality, however, this replanting is usually done much sooner.

In the management of forests, two different practices in regard to cutting prevail. One is to remove all the growing trees, and to start fresh again. The other is to remove only such trees as have arrived up to their maximum value, thus cutting down some trees annually, and replanting the places made vacant by other trees.

Much has been said in this country of the importance of thorough cultivation of the soil preparatory to planting. But he found that the European plan did not embrace any such thorough cultivation. As much of the forests are on steep hills, when the timber is removed, the low stumps, thickly occupying the ground, prevent carrying out much systematic cultivation. And so far from thinking these stumps to be in the way, their presence is regarded as very important, as they prevent the washing away of the soil.

No one could look upon a well-managed planted forest without being struck with its great superiority over natural forests. We sometimes see the latter, and from noticing the quantity of fine timber trees, we think it is almost perfection itself. But when one has seen a cultivated European forest, and then comes back to look upon his perfect native forest, he is at once struck with the fewness of valuable trees in the latter, compared with what the ground is capable of growing. Where a planted oak forest shows fine timber trees, planted in rows, say eight by twelve feet apart, the great value of its trees over that of a natural forest impresses itself very forcibly upon the mind.

In European forest planting one thing was remarkable, viz., the small number of varieties growing. Of the large number of oaks, only four varieties were generally planted; six pines and three firs. Of the elus, ash, only one or two varieties each.

Of American trees, while they were numerous as curiosities in parks, private and public, they have not been planted to any great extent as forest trees for profit. Railroads have planted locusts to some extent, but managers of forests have a prejudice against it on account of the brittleness of its wood, rendering it liable to be injured by snows and winds. But probably the greatest obstacle consists in the obstinacy of the people holding on to things of the past, and disliking new things.

A Southern Vineyard.—The largest vineyard in the Southern States is near Fayetteville, N. C. The *Eagle* of that place, says that it contains 100 acres on which there are 7,000 vines. These vines are chiefly the scuppernong, but also include the flowers, catawba, and other varieties. It is supposed that the yield from these vines this year will be fully 40,000 gallons of wine.

At Nassau, Bahama Islands, an establishment for canning pineapples has been put into operation the present season, at a cost of \$200,000. Six hundred hands are employed in preparing and packing the fruit. A million pineapples have been purchased this season, which were grown upon these islands, and were therefore procured in their greatest state of perfection, and over a million cans have been packed. The pineapples are purchased at from eighteen to forty cents a dozen, and the cans cost on importation hither \$4.50 a dozen.

At a recent meeting of the Illinois Horticultural Society, Dr. Le Baron recommended a single line of tar on the ground, the chinch bug not crossing it; and Prof. Riley said that salt and lime are both good preventives. He strongly recommended clean culture, and burning all rubbish in autumn, and said that most of the bugs would be found in the corn-stalks.

Mrs. Marshall, of Dubuque, Iowa, has received \$2,250 for 18,000 quarts of strawberries she raised, this season, from three and one-half acres of ground.

The Pleasure Ground.

Pruning Evergreens.

BY JOHN T. BLOIS.

I WILL suppose, for example, you have a dozen evergreens, two of a kind. Some you wish to grow in form of pinnales and you select the Norway spruce, because it is a strong-growing variety, and let the leader run up as it chooses, only heading in the side limbs to thicken it up and do away with its shaggy appearance. If you wanted an oblate dwarf, say at a scale of six feet wide to twelve inches high in the center, you would take the weak-growing Balsam at a foot high, cut out its leader and, year after year, do likewise. Let it rise only about two inches in the year and not head in the side limbs, and you would have what you wished.

So, if you wanted an Arbor vitæ dwarfed, with round head at six feet high, or an Austrian, or other pine, hemispherical at eight feet, you would act accordingly by cutting out the top leader at the height you want, and the center leader to the side limbs, etc., according to judgment. There is a continued effort of the evergreens to make height and, if a top leader of a Balsam or Norway, for example is broken off this year, one of the side top limbs will rise up next year and take the lead. In short, whatever you fancy can be accomplished by taking the tree in early time; for, whenever you shorten a leader or side limb, the sap is immediately diverted into buds that grow and multiply limbs and foliage. You can make your tree a hemisphere, semi-ovoid, semi-oblate-spheroid, paraboloid, high or low cone, conoid, semi-oblate-conoid or a pinnacle. •

The Balsam can be made a pinnacle, but the danger is that its lower limbs will thin out their foliage and die, and then the tree, as an ornament, is ended.

All ornamental pruning of an evergreen top is done by a judicious shortening in process, and should always, if possible, be done

in early spring before the sap has started, but should not be commenced on an evergreen the year it is transplanted, nor until it is thoroughly established. In heading in a limb, always cut just above, say one-third of an inch above a bud, so that the bud may develop into a new limb (this rule does not apply to the pines however).

Another method to insure regularity:—Measure out from the bottom of the tree equal distances and drive a peg. Make a circle through the pegs—the tree as a center. From the pegs extend lines to the top of the tree and head in, in a circle, to these lines as a guide, either with the pruning shears or a long, sharp butcher's knife, with which you can cut off, by the eye, a limb at every stroke. The Arbor vitæ can have a rounded head, a paraboloid, and being furnished with numerous incipient buds will thicken up exceedingly by constant spring pruning. As I have remarked, early spring, before the sap flows, is the best time; and it is said to be fatal to a red cedar hedge to prune in midsummer.

The red cedar is capable of being made a very beautiful ornament. Being at an amateur neighbor's of mine several years ago, I observed a red cedar about four feet high, a straggling one-sided growth with three lobes of foliage two feet from the ground, with as large vacaneies between—a very ungainly but thrifty looking tree. I remarked to my friend as we passed it, that that tree was capable of being made a beauty. "How so?" said he. "By heading in," said I. "How is that?" I told him to measure at the lowest limbs, an equal distance from the tree and around, and cut off all the leading limbs with his knife at that distance, and do the same all the way, tapering to the top, making the outlines of the tree cone-shaped, and keep doing so whenever he saw a limb shoot over the line. He offered me a knife and I showed him. He followed instructions whenever he passed the tree and saw a limb shooting out over the mark. In three years afterward, the tree had thickened up into a perfect cone. Even the open places had foliage, so close that a sparrow could not get

in its branches, and my friend was offered \$100 for the tree if he would move it over to a neighbor's grounds.

The pines are more difficult to treat. I know a case, however, where a white pine was growing so fast as to require its removal or curtailment, where the owner cut off the leader, at nine feet from the ground where the tree was two and one-half inches in diameter, and each leading limb at the junction of its branches, leaving only the side branches of the limbs, and in one year afterward it was a comely looking tree, an ornament, but so contracted as to make no further trouble. I have no doubt that any of the other pines can be treated in like manner with success.

It is to be remarked that of all the distaff-headed growing evergreens, the pruning must be above the bud, for, if below, no shoot will start where there is no bud, as is the case in deciduous trees, but, wherever there is a bud, there will be a shoot, and the more the sap is checked by heading back other portions of the tree, the longer and stronger the shoot will grow.

By the term leader, I mean the main upright shoot, stem or body of a tree, not the side shoots or branches; and, when applied to the branch of a body or stem of a tree, the leading or main branch, not side shoots from a branch.

From what has been above written, I think it must appear patent that "cutting back" a main leader will cripple or dwarf a tap root, and strengthen the side roots, and "heading in" a branch leader will proportionately multiply and strengthen the side roots, so that the tree, whether fruit or ornamental, by this dwarfing process, becomes invigorated, and trees on the decline, by thorough and judicious "cutting back," may be forced by their tenacity of life to throw out new side roots and thus become healthy.

Dwarfing Evergreens.—To further illustrate the principle of dwarfing evergreens, I will refer to the notable evergreen garden of Warner Bundy, in Hillsdale county, Mich. This park is in front of his residence, facing

the southwest, upon a street to which it descends at an angle of perhaps 20°, say five and a half rods long, and four and a half rods wide, exclusive of a walk on the west side flanked with various and rare ornamental shrubbery. It contains about fifty evergreens, including the Savin, Arbor vitæ, Austrian pine, White pine, Silver pine, Swedish juniper, Red cedar, Red spruce, Norway spruce, Balsam, Hemlock, White spruce, etc., fifteen or more of which have been wrought upon to produce various forms. Of these, ten are particularly dwarfed low, and consist in part of Norways and Balsams. Other varieties have been practiced upon, but I write more particularly of the two latter varieties.

The dwarf Balsams and Norways are about from one and a half to two feet high in the center, averaging six feet in diameter. Semi-oblate spheroids—very oblate and shaped much in the form of a dining plate, reversed side up, highest in the center, with gentle taper from the centre to circumference, set out nine to ten years ago, when about one foot high, with low furnished foliage and side limbs. This park consists of a great variety of forms. Some trees are erect, like the Silver pine, White pine, Austrian pine and Arbor vitæ, twelve inches in diameter respectively at the ground, set eleven years ago, and then of the same size as the dwarfs I am speaking of.

The method of dwarfing the evergreens was, in the first place, after the tree had become established, to cut back the top to the lower tier of limbs, then let grow, and the second year cut to the third tier of limbs, and so on from year to year, giving each year a new tier of limbs to grow out. The consequence was that there was a tremendously vigorous growth of the limbs left uncut, and every year's limbs falling on the tier next below, so that the whole tree was nearly flattened to the ground, and each tier of branches became imbricated on the tier below.

This park is not only a great curiosity and a credit to its maker and projector, but furnishes a study to any one who wishes to know what can be done in dwarfing evergreens from

top downward, and furnishes a rich, dark green, vigorous foliage.

There is a class of evergreens that, for many years, have grown to a height that was not "bargained for" when set out, and having been set too close together on the start, have grown into high pinnacles, and become so near to a nuisance that it is a question whether to cut them down or let them stand. The trouble is that they have been let grow to from twenty to thirty feet high, just as happened, without any attention whatever. The result is that the Balsam, Black spruce, and such slow growing kinds, are thinning out and denuding their under limbs, looking sickly, running up into spindles and losing their beauty.

The Norway spruce has a rank and shaggy growth, but has lost all its original comeliness from inattention. The question is, what shall be done with these neglected pinnacle trees? Early in the spring, before the sap begins to move, cut off the Norway spruce, say ten feet from the ground, if that is the height you want, two inches above a tier of limbs, and then head in the ends of the limbs, forming a taper from top to bottom, and practice likewise for three years, and you will have a comely tree. When you head in the side limbs and cut off the top, you will see a wonderful difference in the handsome growth of the tree. As to the Balsam and Black spruce, if the lower limbs have thinned out too much, the tree has "gone up," and no use of doing anything but cut down the tree. Sometimes, if not too far gone, the top may be cut off as before said, and the side shoots shortened in, the tree trimmed up three or four feet if the lower limbs are dying, and a fair, vigorous tree be secured if annually attended to afterward.

I think I have now said enough about the principles of treating evergreens, so that the inexperienced, using good judgment, can transplant and manage them as well as he can desire. I will now mention a few points about pruning deciduous trees.

Pruning.—It doesn't seem to be generally known, but nevertheless it is true, that the forest tree is capable of being made a thick, shady,

vigorous tree on the same principles of shortening in that have already been laid down. The Sugar maple, Butternut, Black birch, and all sap-wasting trees should be shortened in before they shed their foliage in the fall, that the wood may dry and season over the amputated end to prevent a bleeding flow of sap. All other trees may be shortened in early in spring or late in autumn. Trees transplanted from the forest should have good roots—all broken or injured roots cut off from the under side with a sharp knife, and well set in late autumn or early spring, the top first cut off twelve or fourteen feet from the roots, with a single limb left on to attract up the sap; this should be cut off the next year, so that the tree may head out evenly. As the top begins to grow, all limbs growing faster than others, should be headed in to make a uniform head.

The principles referred to above in pruning the Red cedar may be applied in pruning a park of deciduous trees, giving each tree, however, its natural shape. The head of a tree once well shortened, it will continue to grow on evenly and handsomely in future, with a tight, thick, shady top. Whenever a limb is headed in, two, three or more shoots immediately put out near the excision, and the tree takes the habit of continually thickening up its head and enlarging its stem and limbs. The American larch or tamarack is said to become a weeping tree by heading in its top. When a tree has attained a considerable height, two men with a double ladder to be moved around the tree, are required, and the pruner should have a long, sharp, heavy knife, to sever the ends of the limbs.—*The Western Rural*.

Dwarf Flowering Almond.—The *Rural New Yorker* recommends the budding of this beautiful shrub on plum stocks, for giving a handsome form like miniature trees. A small head is first formed to the plum stock about three feet high, by cutting back at that point, giving three or four side shoots. These are budded in summer with the almond, and treated as other budded trees. It is recommended also to work the new and beautiful *Prunus trilobata* in the same way.

The Flower Garden.

Flower Garden for October.

TENDER plants which are required for stock, such as geraniums and scented verbenas, must be taken up and protected at once. It is useless saving old verbenas, petunias, and such plants, young ones doing much better; and the same may be said of geraniums, except for stock of any variety of which the stock is limited.

Arundo Donax variegata should be taken up and either laid into soil or boxes. These plants will winter well in a cellar, and generally in the open ground in many parts of the States. We should expect it hardy in all places south of New York; but it is well to have a good reserve stock, if only to vary the place of planting.

Cannas and Dahlias must be taken up as soon as the frost pinches the foliage. If left in the ground until the stems are killed, the roots frequently rot during the winter. These roots keep well, treated like potatoes, excepting a few varieties of cannas, which do not form much tuber. These require some of the shoots to remain on, and to be kept dry in a moderate dry place, free from frost.

Violets must be at once planted in cold frames, to be protected from severe frost. A few boxes or pots placed in the greenhouse are useful to gather flowers from in very cold and showery weather, when it is difficult to open frames. If home-grown lily of the valley is used for forcing, the roots should be taken up or protected before severe frost, or it will be impossible to dig them up when required; but German roots are so much better, it is hardly worth the trouble of forcing home-grown plants. If it is desirable to plant any of the beds or borders with spring bulbs, they should be planted at once, after digging and stirring in a portion of thoroughly decayed manure. It is a good plan to mulch the beds with salt hay or short straw, to prevent bulbs from being loosened by alternate freezing and thawing; it can be removed early, before the bulbs be-

gin to grow. Some snowdrops planted in the turf, especially near shrub borders and under trees, are very pretty, coming in flower before the frost is well out of the ground, and the leaves will be mown off the first time grass is cut, without damage to the plants. Winter aconites and narcissus may be treated the same way, and will require no more attention after being planted.

Japan Lilies should be planted at once. They root all the winter, and do much better than when planted in the spring.

Roses.

BY C. H. MILLER.

[From an address before the Pennsylvania Fruit Growers' Society, Jan., 1874.]

THE hybrid perpetuals are general favorites, and deservedly so, for of all the hardy kinds they are the most desirable. They thrive under common treatment, and are generally suited for all soils and situations. For the embellishment of the flower garden and shrubbery they are indispensable, and can be relied on for all the various purposes to which roses are applied in garden and lawn decoration.

This division embraces classes of roses that differ widely in many respects. Some bloom but twice, others are almost constantly in flower till frost sets in. Some are quite hardy, others scarcely so, and require some little protection during very severe weather.

The China and tea-scented roses are the original perpetuals, and all others that are called hybrid perpetuals, have been created by hybridizing with one or other of the numerous species of summer roses, and breeding in and in with these crosses, to produce all the varieties now cultivated.

All are hybrid perpetuals but those which show strong resemblance to the species with which they are crossed. They are separated into classes by the principal rose growers, to conform to usage and for convenience of classification. Thus we have hybrid Chinas, hybrid Bourbons, hybrid mosses, and hybrid perpetuals or remontants.

Soil.—One of the conditions essential towards success in rose culture is the preparation of the soil. Good loamy soil requires

very little preparation beyond the usual trenching and manuring. It must be understood, however, that if the soil is wet, draining will be necessary, for it is useless and wasteful to put manure on wet soil. In all such cases, then, the first effort must be to drain the soil. Thorough draining airs the ground to whatever depth it drains off the water; therefore it is best to drain deep. Water occupies a large portion of the texture of what we call solid earth. When we draw the water from the soil by drains, the space thus occupied by the water in the earth is supplied by air. The air transmits heat and cold less rapidly than water. Deep drainage therefore tends to equalize the temperature of the soil, and to neutralize the effect of great and sudden changes in the temperature of the earth's surface. It is impossible to underdrain a wet subsoil too thoroughly, as the earth has the power to draw up from below all the moisture that is needed to sustain vegetable life; and in addition it also has the power to absorb a vast quantity of moisture from the air in its passage through the soil.

Next in importance to drainage, therefore, is *deep trenching*. It supplements drainage by often and repeated exposure of a certain depth of soil to the action of the sun and air, by which its oxygenation is carried on more rapidly than it otherwise would be when not so exposed.

The worst of all soils for roses are those of a light, dry, sandy or gravelly nature. In such soils roses often suffer from the dry weather in the hot summer months, and are liable to the attacks of the red spider, one of the worst enemies the rose has to contend against, and which is not easily kept under subjection in hot, dry seasons.

Poor soils of this kind or that of old worn-out gardens are sometimes beyond remedy. In such cases the best plan is to move the soil at once, and replace it with good turfy loam from an old pasture or corn-field. Soil that will grow good corn will grow good roses. If rather stiff the better. In fact strong loam and plenty of well-rotted manure, are really all that are necessary for the cultivation of roses.

The hardy kinds of roses are not so particular as regards locality, providing they have an open, airy situation, and far enough from trees of all descriptions that the roots of the latter cannot reach the soil of the rose beds, for it must be understood that roses want all the nourishment the soil can give them, and that they are not willing to share with others that which they require for their own sustenance.

Planting.—Under this head, I will take occasion to say, that the planting of roses as isolated specimens on a lawn, is in my opinion almost always a mistake, in fact an error in good taste. There are few, if any, that ever form under such treatment, an object sufficiently well foliated to be pleasing, or even an object of interest when not in bloom.

In the suburbs of all our cities we see a certain number of gardens and lawns made hideous with starving rose bushes that have neither shape nor make at any time; that are leafless and scraggy half the year, and during the other half show a few unhealthy leaves, with an occasional flower that are scarcely equal in form and beauty to those imitation roses that are sometimes cut out of a turnip or red radish, and used for the adornment of the Christmas tree.

Then the first step towards securing a nice show of roses is to select the most sunny and airy spot the garden affords; and generally the most favorable spot is somewhere on the lawn. It should, however, be borne in mind that the location thus selected should not be the most conspicuous spot as seen from the principal windows of the dwelling, where their appearance in winter from their being leafless, and the necessary covering and protection, would be decidedly objectionable; but where in summer, when all is bright and lovely, a walk to the rose beds would afford a pleasant recreation before breakfast. And here let me say that, if you would see roses in all their freshness and beauty, you should see their half expanded buds with the glistening dew on their surface. A pleasure felt, but not easily described.

Arrangement of Beds.—The location

selected next in order is the form of the beds and their arrangement. Allusion has previously been made to the bad taste of planting roses singly on grass. A decidedly better and more proper way is to plant them snugly in beds, large or small, as suits the means and taste of the grower. For a small collection, one good size bed, circular in form, with the four sides scalloped towards the center, is the most convenient shape. By this arrangement the cultivator has all the plants within reach without having to step on the bed. The cultivator should also make himself acquainted with the different habits of the various varieties he intends planting. This can be learned by consulting the catalogues of the commercial growers. Those marked vigorous should be planted in the center, distributing the smaller sorts around the larger, thus forming a compact and regular outline, at once symmetrical and beautiful. For large collections a number of beds would be needed, and a variety of forms could be used. Each form should comprise a complete part of a general plan, each part being complete in itself, a perfect whole would be the result.

In garden decoration the climbing and pillar roses are very useful; neatly trained to posts for the center of the rose bed, and distributed throughout a well cultivated shrubbery they are very ornamental, and when blooming above and among the dark green foliage of well arranged masses of shrubs, they are seen to advantage.

Pruning.—The following few remarks under this title contains all that is necessary to be said on the subject. Long treatises have been written on it, describing in detail different modes applicable to different classes of roses, and confusing the rose grower by unnecessary and perplexing particulars.

One principle will cover most of the ground. Strong and robust growing kinds require little pruning. On the other hand, weakly growing roses should be pruned severely.

In shortening the shoots of the majority of hybrid perpetuals, four or five eyes should be left; but those of robust and luxuriant growth, such as Madame La Baronne de Rothschild

and others of like nature, should be only shortened to about half their length. With the more vigorous summer-blooming varieties, cut off about one-third of their entire length only. Keep the center of the plant well thinned, and prune moderate, anything like short pruning with such subjects being productive of abundant rank wood and scanty blossom.

In the short growing hybrid perpetuals and bourbons, two or three eyes or buds are sufficient to be left. In the more tender tea-scented and chinas, all weak and useless should be removed; and the operation must be done with care. And as in many varieties the eyes or buds are far apart, the knife must be sparingly used, or failure may be the result. Much, however, depends on the object or the aim of the cultivator. If a profusion of bloom is required, or a constant supply of buds is necessary, without regard to the size or the perfection of the flowers, then very little pruning is required other than merely thinning out all weak and superfluous shoots, and shortening the ends of the main branches.

Climbing roses, such as Noisettes, Bour-saults and the Prairies, and some of the vigorous summer roses, are the strongest growers, and require little pruning; first, because of their vigorous growth, and secondly, because profusion of bloom rather than quality is required. The old and dry wood should be wholly cut away leaving the strong and young shoots of one and two years growth to take its place, with no other pruning than the shortening of the ends of all side or lateral branches, and the thinning out of all useless shoots. In all cases it is the well ripened, plump looking wood that bears the best flowers. Old enfeebled and soft unripe wood should, in all cases, be removed.

Half pruning in the autumn is very important to lessen the weight that has to stand against the wind, and to prevent undue exhaustion from severe cold, dry weather. The final pruning may be done in March or the early part in April. The exact time depends very much on the season being late or early.

The object of pruning is threefold : first, to give the plant shape and proportion ; secondly, to improve the size and beauty of the flowers ; thirdly, to invigorate the plant. The first object is a very important one, as the future shape and health of the plant depend on the first training it receives. No two shoots should be allowed to crowd each other : a mass of thick foliage is both injurious and unsightly. Sun and air should have free access to every part of the plant.

Pruning in summer, when the plant is in active growth, has the contrary effect to that of pruning in winter, when the plant is in a dormant state, the process is weakening rather than invigorating. It deprives the plant of a portion of its leaves just at the time when they are most needed, and cannot in all cases be recommended. It is, however, often desirable, and frequently saves much trouble, and may be effected to a great extent by cutting the blossoms with long stems when wanted for decoration or otherwise, and by removing all decaying and faded flower-stalks. Many of the kinds by this treatment, and by reducing their main branches to one-half their length in June, are much more certain to give autumnal blossoms, besides the general appearance of the plants will be much improved.

To produce the best effect with roses, continuous blooms should only be used ; such as Hybrid perpetuals, Teas, Bourbons and Chinas. Summer roses that bloom once in a season and no more, are useless except for exhibition purposes. If you desire to have summer roses—and none and more beautiful when in bloom—let them have a place by themselves. Never let them mar the effect of the others, by planting among them sparse blooming kinds, when by a judicious selection of monthly blooms a complete succession can be had of beautiful buds and blossoms, and the rose garden kept in perpetual and ever increasing beauty.

Transplanting.—As roses flourish better for an occasional transplanting, and their bloom and foliage is always finer in cultivated than in grassy ground, a biennial lifting of the plant should form a part of their culture.

The process will enable the cultivator to perform the operation of root pruning, often a very important matter with the strong growing kinds. And all who desire their roses to bloom satisfactorily in the autumn, should embrace the opportunity thus offered, to enrich the soil by deep trenching and by well-rotted manure.

Now the best time to transplant or lift and replant roses is when the roses are ready ; and they are ready just before their leaves drop in the fall : say about the last week in October, or the early part of November. If proof of this is required, one has only to take up a few roses, two weeks after planting in November, when it will be at once seen that a large quantity of delicate white fibres present themselves. These roots are formed by bottom heat, or to put it in plain words, by what ground heat remains of the past hot summer weather, which is sufficient to establish the roots before winter sets in. From November the heat diminishes, and vegetation becomes less active. Therefore, it is easily seen that if the operation is deferred until late in November, the roots will remain stationary with every probability of their being injured by the winter, for it must be borne in mind that no amount of sun during the winter will have other than bad effect on roses planted after the time here specified. They may, and probably would survive the winter, and the buds start in spring ; but as there will be a deficiency of fibrous roots, the plants will suffer accordingly. Therefore plant early in November, unless the plants have been grown in the greenhouse in pots all summer ; in that case better defer the planting until spring. Plants grown in pots, although smaller, are generally more desirable than those grown and taken from the open ground.

Before leaving the subject, it will be desirable to point again to the fact, that to have roses in anything like perfection, they require liberal cultivation. They must have a compost of a substantial character ; and in practice nothing has been found better than good, rich loam rather close in texture, and well-rotted barnyard manure.

Gardening.

Cannas.

BY JOHN QUILL.

WE doubt if any of the perennial bulbs bearing annual flowers and foliage, can rival the *Canna* in stately magnificence, grace, and sublimity. Adapting themselves as they do to almost any soil or situation either in city or country, they are foremost in contributing to the tropical appearances of the garden when planted in groups bordering on the shrubbery. Their continued luxuriance and beautiful sheen prompt us to always give them the most conspicuous place in the pleasure ground, and their utility for decorating the conservatory, window garden and draw-room is very well known. People think it difficult to preserve the bulbs of this plant over winter, yet the requirements for their preservation is very simple: first, see that the bulbs are perfectly dry before removing them to winter quarters; they will live in any dry place where the temperature will not fall below freezing, or pack under hay or straw in the stable or barn. Scientists will pronounce these bulbs unsafe unless packed in sand and sawdust. 'Tis not at all necessary; we found them to live under the same temperature and treatment that potatoes will. This plant will thrive satisfactorily in most kind of soils; still it, like other plants, has its favorite compost, namely, black, sandy loam with a mixture of fresh stable manure. Some of the older workers in the soil will feel a little chagrin at our prescribing fresh manure in this case—let such dispense with imported theories, and American horticulture will profit immensely. Bulbous-rooted flowers delight in striking their roots into a mixture of strong, fresh manure that has retained all the ammonia and other good substances so encouraging to plant growth and health. It may not be out of place to relate here a little incident that led us to the secret of forcing *Canna* into early bloom; it was accidentally this: An unruly cow broke loose from the pasture early

one morning, and took a walk through the pleasure grounds, to enjoy in sweet solitude all the beauties that a well-kept landscape presents in the dewy mornings of June. She, however, did not confine herself to the mere admiration that circumstances offered, but indulged freely in satisfying her appetite on a large group of *Cannas* that occupied a central ornamental position.

The gardener did not curse much; he had often made new discoveries under a similar circumstance before, and was now anxious to know how the core of the stalk would develop itself, as he cut the bruised and broken shoots down within one foot of the ground. The growth of the leaves were checked by this operation, but the center remained active. Four days after a flower stalk of a very prepossessing character made its appearance above the cut, and in ten days more had attained the height of three feet and fully expanded blossoms. Meantime young shoots sprouted from the bulbs, and were making rapid progress towards repairing the injury done to the parent stalk. The shoots that remained unmolested in the group did not bloom until five weeks later than those that were bruised and cut down.

Canna Marechal Vaillant, a new species sent out during '73 and '74, deserves special notice on account of its superior quality for ornamental purposes. The great fault with the older species of this family, is the pendulous tendency of their leaves being swayed to and fro by the wind, and lastly broken by heavy rains. The leaves of *C. Marechal Vaillant* assume an upright attitude, once they develop and maintain this inclination throughout. In most cases two or three or more shoots start from each bulb, each attaining the height of 6 feet and covered from base to top with large, green, oblong leaves. Flower stalk smooth, erect and very substantial, dividing at the top into bud panicles. Corolla, creamy yellow, folding as the buds expand, and forming upright columns holding the petals composedly in their place. Petals large and conspicuous, orange color with pale crimson tints splashed delicately over the surface.

Speaking of Canna reminds us of a massive forest of bulbous-rooted flowers designed by the writer on the grounds of a grand institution in Cincinnati. A gas work was in continual operation in close proximity. Soot and smoke hovered above, all seemingly strictly neutral towards the vegetation that abounded plentifully on the beautiful grounds that surrounded the institution although located in the center of the city.

A tall growing species, *C. gigantea auran-tica*, attaining a height of ten feet was chosen for the center of the grove, followed by the following named varieties, each sort completing a row in the large oval-shaped bed: *C. sanguinea chatei*, eight feet, flowers deep red, dark green foliage; *C. limbata*, seven feet, flowers scarlet, fine foliage; *C. Marechal Vaillant*, six feet, orange, beautiful upright green foliage; *C. zebrina*, five feet, scarlet, striped foliage. Other bulbous-roots were planted alternately, thus after Zebrina, a row of *Tritoma uvaria*; *C. aurea vittata*, four feet, very ornamental, followed by a row of *Liliums auratum* and *lancifolium*; *C. warscewiczii*, three feet, flowers brilliant red, variegated foliage, followed by a row of *Pompon Dahlias*; *C. museafolia hybrida*, two feet, red foliage, followed by *Gladiolus*, *Tuberose* and *Tigridia*, one row of each kind; *C. angustifolia nana pallida*, one foot and a half, followed by the smaller sorts of variegated *Caladiums*, making an ornamental edge for the forest of foliage and blossoms. The gay buds and large expanded petals of the *Gladiola*, *Tigridia*, *Auratum*, etc., contrasted finely in sublime harmony with the beautiful leaves of the dwarfed Canna, giving the scene a feature that baffled description.

Gentlemen visitors from Philadelphia, New York and Boston, pronounced this tropical arrangement superior to anything they had ever seen in the floral line. And we add as an encouragement to young America, that the designer had never seen those much boasted of foreign gardens, nay, nor never received instructions from any one who graduated in said gardens.

Cincinnati, Ohio.

Shade Trees.

BY JOHN QUILL.

THE *Gardener's Monthly*, for May, tries to enlighten its readers on the most successful modes of planting shade trees in the city. It cautions us not to provide trees for our sidewalks except those that are easily moved, of a strong and vigorous growth, and proof against gas and worms. Trees possessing these confined qualities are indeed suitable for sidewalk planting, but *The Gardener's Monthly* fails to satisfy us in the trees thus qualified to grow rapid and strong, and resist the effects of gas and the action of worms. Gas, according to the theory of *The Gardener's Monthly*, kills thousands of street trees annually. Gas, we will agree, is destructive to vegetable life, if so confined as to be directly under the influence of gas. It is now a general belief among the more rational scientific men, that gas, once it leaves its confinement, makes its way swiftly, much rapider than smoke to the upper regions; that the continual emanation of gas from the various apparatuses mixes with the atmosphere while moving in swift currents upward, it is true.

Gas, as every school boy knows, is composed of aeriform fluid, with an impatient tendency to move upward, whether in a body combined or disseminated. Advocates of city trees would have us believe that gas in place of rising to a lofty destination, hovers close to the surface in a dewy vapor to be absorbed by everything vegetable that has pores to breathe.

If critical Tom would honor Cincinnati with his presence for a day or two, we would convince him double quick that gas should not be entirely blamed for the sickly appearances of shade trees on city sidewalks. We would show him to the gas works of a large institution in the center of this city, where a grove of various kinds of trees—trees that a sidewalk forester would deem unsuitable for the city, are growing and flourishing finely around the tanks, meters, retorts and purifiers of this gas structure.

Here, then, is a living monument for the man of science to study; absurd as it may seem, there are hundreds who will unhesitatingly vouch for the truth of this statement. Volumes of gas and smoke escape at the drawing and recharging of the retorts, a large portion of which passes between the leaves and branches without molesting them the least.

Flowers and shrubs thrive in the vicinity of the gas work, and we have seen a large group of the finer species of bedding plants perfecting their foliage and blossoms with health and vigor in the distance of sixteen feet from the gas purifier.

In the suburbs of this city a gas apparatus is surrounded by cherry trees; escaping gas and smoke pass between the branches and leaves continually, yet these trees bear a heavy crop of fruit annually. The writer has time and again stood on the roof of this gas house and picked baskets full of rich and juicy cherries from the surrounding branches.

What is it then that we are to attribute that sickly, shriveled condition of trees in this city to? The pretending scientist will answer gas, while the more rational practitioner will answer dirt, soot and dust, washed by drizzling rains into the interstices of the bark, stifling the pores and thereby depriving the trees of their breathing facilities. Why not economize a portion of the water so lavishly wasted in cleansing the pavement under those dirty trees? Why not direct the nozzle of the hose towards them? they are stifled and gasping for breath—let the water play with force against the bark, leaves and branches. This will animate new life, encourage growth, health and vigor, and help to dislodge any pests that are inclined to feed on the foliage.

The Gardener's Monthly enlightens us in following mode: Trees die for want of nourishment, being planted on sidewalks that have been graded up with coal ashes and other refuse, without sufficient soil being put to support them—they grow a little at first, and then gradually dwindle away.

We have seen trees grow luxuriantly in

coal yards, where cart loads of coal dust could be shoveled off their roots. We can also affirm from practical experiences, that refuses of lime, mortar, saw dust, wood chips, shavings, etc., mixed in the grade with sand, ashes, muck, clay, street sweepings and other rubbishes when packed together under the pavement for a few years will rival the loam of the forest in maintaining the life and vitality of trees. Speaking from a practical standpoint, we can also confidently assert, that trees once taken root in these accumulated ingredients will dwindle away only when stricken with disease from dirt, dust and soot.

The Gardener's Monthly is inclined to condemn the Tulip poplar and Magnolia acuminata on account of their obstinacy to bear a successful transplanting. Quite obstinate, we will agree, moreover, if laid on the sidewalk for half a day to bleach and then stuck in the ground close to the curb stone like lamps or hitching posts by some quack forester. *The Gardener's Monthly* further assures us that Lindens, Maples and Chestnuts are sure victims to insects, worms, etc., and again adds, that Paper mulberry and Silver poplars should be discarded in consequence of their tendency to lean over and heave pavements.

Worms like to dwell among dirty things, you know. Use the hose; a strong stream of water will exterminate both pests and dirt, and float them safely into the sewer. The irregular tendency of the P. mulberry and S. poplar may be attributed to injudicious planting; as the trees grow old their roots cram the space between the curb stone and basement wall of the buildings. Street tree planters should learn how to sink the roots of trees below the lower edge of the curbstone, thus inducing the trees to extend their roots under the whole street.

'Tis now prudent for us to pause with a view to economize space, hoping THE HORTICULTURIST, as well as thousands of its readers, will agree that the first thing to be considered in this much agitated city tree question, is the cleansing of the trees.

Cincinnati, Ohio.

Fruit Culture.

Neglected Fruits.

BY J. S. PARKER, M.D.

BY these, we do not mean that they are unknown, but undervalued. We, Americans, have a "King-worship" or a "man-homage" spirit. We have but two or three lawyers, which we applaud, and these we all praise. We have two or three great merchants, if we neglect others. We popularize a few physicians and ignore other good or better men. We idolize a Bartlett pear, and have but three or four popular pears. All this is an error. No man is perfect, nor any fruit. As one of these undervalued fruits let me name the *Bloodgood Pear*. Downing, in the first edition of his book on Fruits says, "this is the highest flavored of all early (or summer) pears, and deserves a place even in the smallest garden." It originated near New York city, or was brought there by some one, and was introduced to the public about the year 1835, by James Bloodgood, then a nurseryman at Flushing, Long Island. Downing says nothing in its disparaise. Thomas says it is liable to decay at the core, and insipidity on certain soils. To this we reply, so are many valuable pears, especially summer pears. My own opinion is, that it should not be set out on clay, or on damp, mucky soil. That on light, loamy or gravelly loose soil, even if a little clayish, in dry, airy situations, it is fully equal to the praise of the elder Downing. It is as large or larger than the Seckel, bright yellow with irregular russet fine dottings, which often give it a beautiful appearance. Ripens August 10th to 25th in Central New York, and is not, perhaps, the highest flavored of all pears, but one of the most delicious of summer pears.

Plymouth Colony Apple.—This is generally known as "Golden Sweeting" in Central New York. It is more of a greenish yellow than golden yellow. It is so old that it is attributed to the old Plymouth Colony,

Massachusetts. Its exact history I have never learned. It is also called "Summer Sweet" and other names. It is a roundish apple, a little shorter from stem to calyx than in horizontal diameter. Slender, longish stem, has sparsely scattered white specks, and often a few minute black specks on its sides. It is very sweet, tender, and a constant bearer; tastes better than the Sweet Bough and cooks better. It is popular where known, but I have never seen it largely for sale in city and other markets, and it is unknown to many people.

Rostiezer Pear.—In shape it resembles the Summer Bell, a pear which sells well in city markets, because so prolific and so cheap, yet the Rostiezer is in every way a better pear. It is an early autumn pear in the northern states, with long stem and a dark greenish, yellow color, except when reddened on their cheeks by the sun; said to have been originated on the river Rhine, in Germany. It is easily known, as it is so near pear-shaped as the common Bell Pear, and ripens but a few days after that pear.

Summer St. Germain.—This is another delicious summer pear when grown on dry, loose soil. On hard clay and in damp situations it is apt to be too juicy and second rate in flavor. Summer pears need clean, moderately rich soil, annually manured at the roots of the trees; a quick airy soil with warm exposure. Thus cultivated, no summer pear can please us much beyond the St. Germain. Like the Bloodgood and Rostiezer, it is medium in size, as are most summer pears; it is juicy, tender and with just flavor enough to suit every one when well ripened. It is obovate, or like Sheldon in shape; light green, stem an inch or a little over long.

There are a few fruits that have pleased me this season so far. As to apples, the Early Strawberry and the Red Astrican are becoming our early market apples, to the exclusion of the Yellow June-eating or Golden Tart Harvest, and the Sweet Bough. Why a yellow apple was the favorite a few years ago, and the red is now in preference, is not so easily explained. Yet for health in its

eating and pleasure as a baked apple, I know no apple so good as the Golden Summer Sweet I have just spoken of. Let us at least be wise enough to know that there are other good pears besides the popular rage for Bartlett's and Seckles. Said an extensive dealer to me the other day, "I sell ten to one of these two, Bartlett's and Seckles." You must educate especially young married housekeepers to the value of other kinds. So I have said a word to the wise.

Dwarf Pear Trees.

IN a discussion on this subject by the Massachusetts Horticultural Society at an early meeting of this year, Mr. Charles M. Hovey excepted to the rooting of dwarfs from the pear, believing it would be better to let them run out their natural lives and then take them up. He thought they would not make as good standards as those originally grafted on pear stocks, on account of their tendency to send out one or two strong roots on one side of the tree, instead of rooting regularly all around the tree. If allowed to root from the pear, they must either be planted at the proper distance for standards at first, or thinned out to such a distance.

Mr. Wood admitted the tendency to which Mr. Hovey objected, but said that it could easily be obviated by the operation of "lipping;" that is, removing the earth and cutting several tongues at intervals around the tree by an upward cut with a gouge or knife, beginning to cut at the bottom of the swelling of the pear where it joins the quince. These cuts should be from an inch to an inch and a half long and a quarter of an inch wide, and kept open by pressing a little earth under the tongue. The earth should be replaced over them, when they will soon send out roots freely all around the tree. The best time to perform the operation is after the middle of June, when the tree is growing rapidly and the ground is warm, so as to excite the production of roots. The soil should be kept moist by mulching or otherwise; in fact, the conditions of success are precisely the same as those required for striking cuttings.

Standards made in this way have the advantage over those grafted on seedling pear stocks that they do not send down long tap roots into cold, ungenial soils, to the injury of the tree and fruit.

Marshall P. Wilder had had a great deal of experience with dwarf pear trees during the last forty years, and was strongly in favor of them on account of their early bearing. Two-thirds of his collection were originally on quince roots, and by using this stock he was not only able to test many new varieties in much less time than would have been required with standards, but to furnish himself with fruit in a very few years. Viewed in this light dwarfs were not only exceedingly useful to the amateur and experimenter with new fruits, but a great blessing to the family. He did not concur with Mr. Hovey's view that the dwarf, when rooting from the pear, sends out one-sided roots. Some varieties, such as the Vicar, send out roots freely all round, without the trouble of lipping, and, the quince dying out, they made the very best standards he had got. His system was to plant standards sixteen feet apart, with dwarfs between, and when the standards grew so large as to require all the room, the dwarfs which had rooted from the pear were transplanted to other situations, and were found to be amply supplied with fibrous roots, without any tap root whatever. In this way a large proportion of his trees were made. Where varieties like the Bartlett, Doyenne Boussoek, and Belle Lucrative send out roots from one side only, they still make fine standards when they get well established. In regard to the durability of trees on quince roots, Mr. Wilder said that he had some which, though not rooted from the pear, were more than thirty years old, among which were Urbanistes, that each bore regularly more than a barrel a year.

Canning Strawberries.

STRAWBERRIES are found by some difficult to can, but we have found it otherwise. Our wife has practiced canning this excellent fruit for, at least, fifteen years, and has met with no more failures in this

than in other kinds. Her usual way is, to put the fruit in a porcelain kettle, with enough sugar to sweeten it to the tastes of the family—from one-fourth to one-third of a pound of sugar to a pound of fruit, depending upon the acidity of the fruit—and cook it sufficiently to thoroughly expel the air. Having the *glass* cans tempered by standing in hot water, she dips the boiling fruit into them, and immediately fastens on the covers. After the cans have cooled, she goes over them and tightens any covers that may be a little loose. Her loss probably does not exceed five per cent. of the whole, and is no greater with strawberries than with other species of fruit.

Until quite recently we had always practiced canning the Wilson's Albany, exclusively. So much sugar is required to render this very sour variety palatable when cooked, that it is too rich or strong to be really first rate. Two years since, our bed of Wilsons having failed we were obliged to can such varieties as we had, mainly Green Prolifics, and Jucundas, less acid berries. When we came to use them, we were much surprised to find them far more delicious than the Wilson. Hereafter if we can the Wilson at all, it will be intermixed with Triomphe, Jucundas, or some other varieties, sweeter than Wilson.

One word in regard to sweetening fruit before canning it. This is done not with a view to its keeping better—for the keeping depends upon the exclusion of the air or oxygen, the acidifying agent, not upon the preservative virtue of the sugar, but because it is better to have the sugar cooked into the fruit, and it would be quite inconvenient to heat up the fruit again, after taking it from the can to cook in the sugar.—*Am. Rural Home.*

Best Varieties of Cherries.

FOR market, it is very important that the fruit be large, handsome, firm, with a tough skin. Some of our most delicious cherries, such as Yellow Spanish and Coe's Transparent, are so tender in skin or flesh as to be almost worthless for shipping.

Black Tartarian stands decidedly at the head of the list for profit. It meets with the most ready sale of all varieties. It is uniformly productive, very large, heart shape, purplish black, firm, juicy, sweet. We would advise any one in this vicinity setting out for market a cherry orchard, to plant three-fourths of them Black Tartarian.

Among other kinds of black or purple cherries sold quite largely in Rochester markets are, Black Eagle, Knight's Early Black, and Black Russian—the latter a late, firm, rather bitter, second or third rate cherry, which sometimes sells well on account of its lateness.

Napoleon Bigarreau—probably the most profitable yellow cherry for market. Very large, heart-shape, pale yellow, with red cheek, flesh firm, juicy, good. Tree vigorous and productive. This variety is in demand for canning—the yellow being preferred to the red for that purpose—and probably ranks next to the Black Tartarian for profit.

We select the above kinds most extensively grown for market here. We have little doubt that those who should confine themselves to Black Tartarian and Napoleon Bigarreau would come out with the most money. For family use, we would plant one tree each of Yellow Spanish, Coe's Transparent, Rockport, May-Duke, and Reine Hortense.—*Rural Home.*

The Charles Downing Strawberry.—J. L. Budd, Shellsburg, Iowa, says: "We surely need a strawberry for home use with less acid in it than the Wilson, at the same time retaining, as far as possible, the hardy habit and productiveness of the latter. So far as my experience and observation go, the Charles Downing is just about the berry we have been looking for. It is of large size, moderately firm, of most excellent flavor, plants vigorous and hardy, about as productive as the Wilson, and the strength of the plant is such that the berries are held up from the dirt much better than with the Wilson."

Window Gardening.

Window Garden Notes.

BY HORTICOLA.

Callas.—One of my lady correspondents complain very much of her Calla Lily which “grows vigorously but produces no flowers, and has not had any for two years.” Without asking any questions, I venture the assertion that the trouble is not in the bulb as she supposes, but is in her mode of caring for the plant. She probably waters it regularly the whole year, and thus keeps up a constant growth which effectually prevents bloom. All bulbs must have a season of rest in order to produce fine bloom, but her lily gets none. It is too late to remedy the trouble so as to obtain the winter or spring which she desires, but we would suggest the following treatment for next season. About the last of May or early in June turn the pot *on its side* under a tree, and, if possible, forget it entirely, until the last of August or first of September, when she may place it on her shelf and supply water gradually at first, and as the leaves increase, more liberally; if summer bloom is wanted, let the rest be in the winter.

Hanging Baskets.—Many readers are, no doubt, in a state of doubt as to what plants to select for their winter hanging baskets and vases. For this purpose we would strongly recommend the finer Tropæolums. None are much better than the *T. Lobbianum* and *T. Schulzii*, though I have had good success with *T. peregrinum*. One trouble with these plants is, that with many they lose all their beauty when their owners find they are nothing but Nasturtions. These plants need a free supply of water, and do best in large baskets where the roots have room. A large basket or vase may be well filled by a plant, each of *Thunbergia Aurantiaca*, *Tropæolum Lobbianum*, *Convolvulus Mauritanicus* and *Seypanthus Elegans*. Some would like to add a *Barclayana*, but we find it too delicate to struggle with those which we have named.

Pot Flowers.—Many of those who attempt

the raising of flowers in pots, make a fatal mistake at the very foundation, in the selecting of the soil. Many use a soil which is too compact to allow water to pass freely through it, and the plants soon become “water logged.” The soil should be porous enough to admit of the free passage of water, and yet not so open as to dry up. A pile composed of equal parts of partially decayed sods, manure and wood loam, will, when thoroughly decayed, make the best possible soil for pots. If sods and manure are used, garden soil may do, but most of it contains most too much clay; this may be counteracted by using sand. The soil must allow the water to pass freely through it, and too much should not be applied at one time; little and often is the safest rule.

After another season’s trial, I can strongly endorse the use of a single plant of *Passiflora* in a large vase or pot, the vine to be allowed to run over a window, but not in contact with it. The new variety *P. trifasciata* is the finest, as its tri-colored leaves are a great addition to the beauty of its flowers, which of themselves are the most beautiful of the *Passifloras*, though much of their beauty depends on proper care and treatment.

Plants in Rooms.

How to Plant; When to Transplant.

M^R. Robinson’s new horticultural journal, *The Garden*, in discussing lately the best season for transplanting house plants, says, it is when the plants are about to pass from a state of rest into a condition of fresh growth, that is, early in spring. Another favorable time is at the end of the first growth in spring, and before the plants (as is the case with many evergreens, such as *Camellias*, *Azaleas*, etc.) commence to form the buds for the following year. Transplanting at the time when the plant is in full growth should be avoided, as it disturbs the growth of the plant, and the young shoots are frequently injured, and sometimes quite destroyed. It is only to be recommended when individual

specimens of speedy growth are grown for exhibition, and for this purpose are transplanted several times in the course of the summer. Transplanting in autumn is especially to be avoided in the case of room plants, as the new soil does not become filled with roots during the winter, and consequently, becomes sour and spoiled; and, if not watered with great care the plants will become sickly, or perish completely. There are a few exceptions to this; as, for instance, bulbous plants, which are kept dry late in summer, and are intended for winter blooming, and some other plants which are to be forced in winter. We would especially remark that the result of forcing will be so much the more certain, the earlier this transplanting takes place, in autumn or late summer.

In the common practice of a transplanting, fine, healthy specimens are sought to be raised in pots which are proportionately not too large. Plants which have their ball only so far filled with roots that a few small ones reach the side of the pot, should not be transplanted so long as these roots are healthy, and the soil of the ball is fresh and does not give out a sour smell; which, as we have seen before, is the result of an unhealthy and injurious condition.

Where the soil is spoiled, or the young roots are unhealthy, or, as is frequently the case in good culture, the entire ball becomes so full of roots that it seems to be thickly covered with threads, the plants should be transplanted. Therefore, before proceeding to transplant, the condition of the ball should be examined. This should be done very carefully, so that in case no change is necessary, the ball may be replaced in the pot without injury. With small plants this examination is best effected in the following manner: The left hand is spread over the top of the pot, allowing the stem of the plant to come between the fingers. The pot is then taken in the right hand and reversed. The edge is then carefully struck against the corner of a table or board, so as to loosen the pot from the ball; the pot is then lifted off and the ball examined. In the case of larger plants, the soil is first of all allowed to be-

come somewhat dry, then the plant is seized by the lower part of the stem and lifted along with the pot. The pot is gently struck on the rim with the hand or a piece of wood, and so carefully separated from plant. When a ball filled with roots will not readily separate from the pot, a knife should be passed round the edge as deep as it will go; this will greatly facilitate the operation.

Lastly, plants in large wooden tubs or boxes should only be transplanted when an examination of the ball from above shows that transplanting is absolutely necessary. The vessels are removed either by taking off the hoops of the tubs, or by taking the boxes to pieces, or else by first passing a long knife round the ball to loosen it, and then turning the vessel on its side and carefully drawing out the plant. After the ball has been carefully removed it should be reduced in size, by removing the spoiled and exhausted soil, in order to give the plant as much fresh, good soil as possible, without having to place it in too large a pot or other vessel, which, especially in room-culture, would be very inconvenient. For this purpose the earth round the ball is loosened by means of a sharp-pointed stick, and is shaken out from the roots, so that the ball may be rounded above and below, and its diameter reduced to three-fourths or two-thirds of its former size. If there is an underlayer of potsherds, etc., it must be entirely removed. The boards should then be trimmed round with a sharp knife. In sickly plants the roots will be more or less decayed in parts. These parts must be cut back until sound wood is reached. The roots of healthy plants should not be cut when the plant is in a state of active growth; in which condition, or when it is known that the plant will be injured by a severe root-pruning, it will be sufficient to take away some of the upper soil to remove the layer potsherds, to loosen the surface of the ball, and to trim a few of the longest roots a little.

In planting, a pot should be selected so large that, according to the strong or feeble root-forming powers of the plant, there may be round the ball a layer of fresh earth from

one-third of an inch to one inch thick. A piece of potsherd, arched in shape, should then be placed over the drainage-hole, so as to cover it well above, but leaving space at the sides for the flow of water. Then should follow a layer of broken potsherds from half an inch to one inch thick, and over this a thin layer of moss to prevent the soil being carried among the sherds. Instead of the layer of potsherds, a layer of moss or of coarse sand may be used, or some of the coarse fibrous tufts which remain in the sieve when soil is sifted. Attention in providing good drainage will be always repaid by the healthy condition of the plants which it secures, especially if they are sometimes carelessly and immoderately watered. After the drainage layer has been put in, just so much soil should be placed upon it that when the ball is laid in, the uppermost roots will be from about one-third of an inch to an inch below the top of the rim of the pot, so that when the soil is filled in, there may be sufficient space left to retain the water in watering. The ball being so placed that the plant may stand exactly in the center of the pot, the soil should then be filled in. This should be dry, so that when closely pressed it will not become cloddy. During the gradual filling in of the soil, the pot should be repeatedly shaken, so that the soil may be evenly settled all round. In small pots it will be sufficient after the soil is filled in to press it down close with the thumb. In pots more than five inches high, especially when the space between the pot and the ball is only limited, the soil should be pressed in during the process of filling in, with a flat, blunt piece of wood, so that it lies evenly in all parts. When the soil is moist and stiff it should not be pressed so closely. The common rule is that a well-potted plant, if the pot is not disproportionately large, may be lifted up by the stem along with the pot without the pot falling off. This experiment should not be tried with weak plants, as they could not sustain the weight of the pot and would break off, especially if the soil was stiff and moist and the pot rather heavy.

After filling it with just so much soil that the upper roots will be covered, it is to be pressed round the rim of the pot, so that the flow of the water may be directed towards the ball, and not pass through without wetting it thoroughly. When it is desired to raise strong specimens quickly, the roots of the plants should not be trimmed more in transplanting than will allow them to draw sufficient nutriment from the soil in the pot for a strong growth. Two modes of treatment are in use, viz.: a single transplanting, and transplanting several times. Single transplanting in pot culture is similar to that practiced in open air culture. It is generally employed in the case of young healthy plants of quick growth, which have not been long raised from seeds or cuttings. When they are transplanted in spring, they are put into pots from twice to four times the diameter of those in which they have previously grown. The old ball is not disturbed, only the roots which come through it are loosened and spread out in the fresh soil, which should not be pressed down so closely as in ordinary transplanting, as it will be quite sufficient to shake the pot frequently and then press the soil down gently with the thumb. A deep layer of potsherds and moss for drainage, is, in this case (where at the same time a great deal of nutriment is given, and the soil changed only once in the year), very conducive to successful results.

Ammonia for Verbenas.—Sulphate of ammonia is an excellent manurial liquid to apply to verbenas and other flowers, giving to the foliage a dark green, luxuriant and healthy appearance. It is economical, clean and easily applied. Prepare it in the evening before using, by dissolving one ounce of ammonia in two gallons of water. It may be applied with safety about once a week.

New Tea Rose.—It is stated that a new Tea Rose, called *Perle de Lyon*, has been raised in France. This novelty is said to resemble Marshal Neil, but being only more beautiful.

New and Rare Plants.

Dioscorea Illustrata.—A handsome-foliage stove climber, imported from Rio Grande do Sul. The stems are wiry; the leaf-stalks angular. The leaves are cordate sagittate, about six inches across, abruptly apiculate, and produced at the base into two bluntish lobes, which are three inches across; the blade from the petiole to the tip measuring about five inches. The size and marking of the leaf are the peculiar features of the plant. There is an irregular central band of silvery gray, and a few angular patches of the same color generally placed in juxtaposition with the ribs, of which there are four on each side the costa. The surface is a satiny green, shaded with olive green, and marked by fine, transverse, whitish, parallel lines between the nerves, a third series of irregular virulets crossing between the latter. The under surface is purple.—*William Bull.*

Lilium Tigrinum Flore Pleno.—This is one of the most remarkable varieties yet produced of the Tiger Lily class. Its flowers are very large, double, and of a bright orange color; the segments are thickly studded with dark brown spots, except at the tips, which are recurved—introduced from Japan only within a few years, and hitherto has been quite rare and high priced. Considered by florists very novel and extremely handsome. Most American florists now have it.

New Ferns.—Ferns have yielded little of importance during the past year, if we except the interminable and hard-named varieties of British species, which we owe to the enthusiasm of cultivators. The *Dicksonia Sellowiana*, however, a tree fern of Brazil, which has found its way to the Belgian gardens, will be a nice addition to our collections; *Davillia* (or *Humnata*) *Tyermanii* is a charming basket fern from West tropical Africa, its small deltoid tripinnate fronds and silvery-scaled rhizomes being singularly ornamental. *Elaphoglossum Herminieri*, christened the Eel Fern by Dr. Seeman, from the

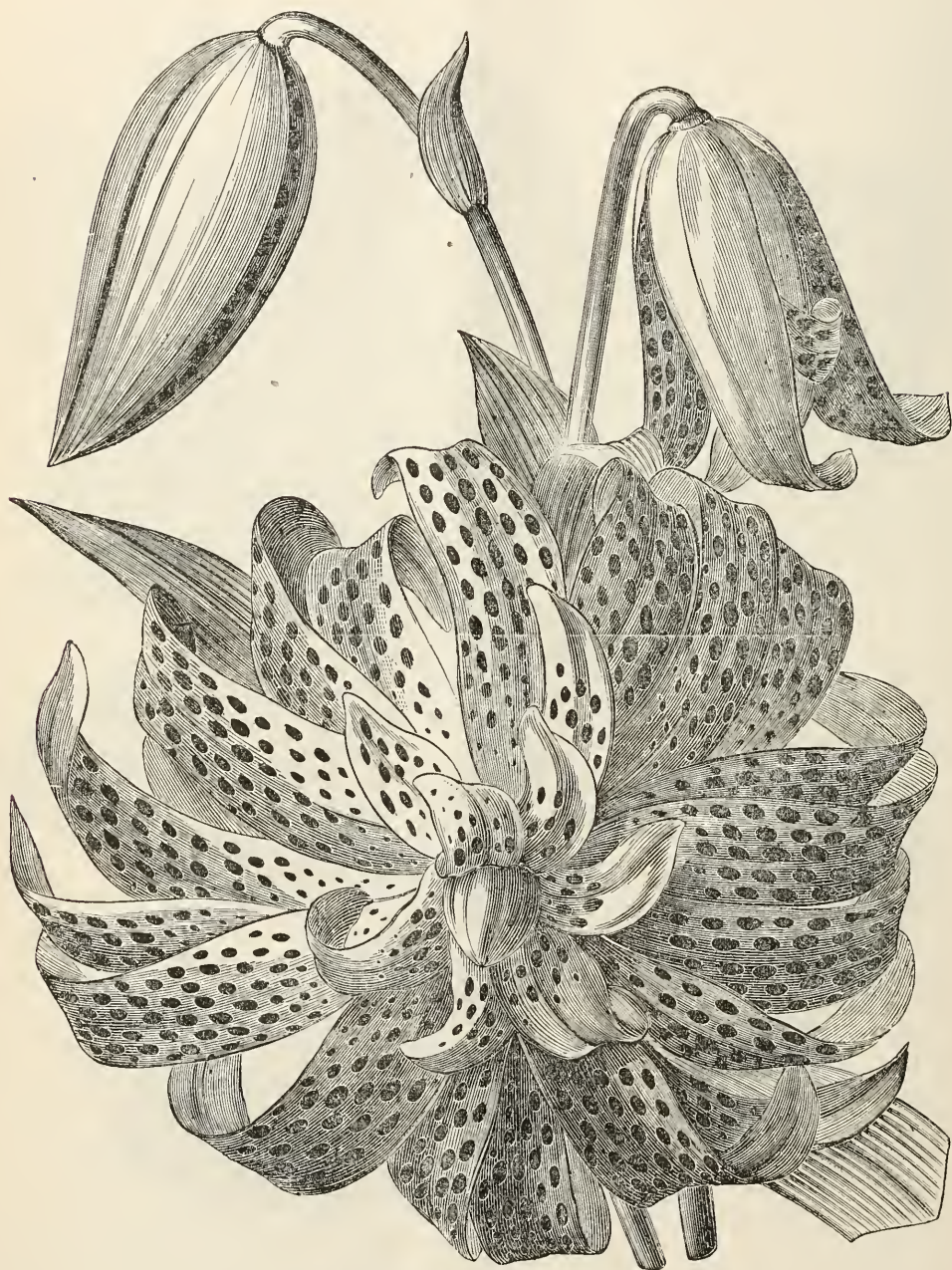
resemblance of its clustered glossy iridescent sterile fronds to clusters of silvery eels, is a good stove basket fern; and *Trichomanes auriculatum* is a lovely creeping stemmed, hot-house film fern, with transparent green, narrow, bipinnatifid fronds. *Asplenium marinum* Thompsoniæ and *Polypodium vulgare cornubiense* (or *Whytei*, as it is sometimes called) may be mentioned as most distinct looking bipinnatifid varieties of the Sea Spleenwort and common Polybody respectively, which, as is well known, are normally pinnatifid only.—*Gardener's Chronicle.*

***Gordon's Dwarf Fir* (*Abies Gordonii pumila*).**—This is a new variety raised by M. Molet, nurseryman, of Plessis-Piquel, France, and forms a dwarf pyramidal shrub with numerous erect branches, covered with a smooth bark of a light green or slightly yellow color. The leaves are of a deep green on the upper surface, and are marked underneath with two glaucous bands. It forms a very handsome miniature shrub, well suited for small lawns or gardens, while the leaves never turn brown under the sun, as those of the parent plant are liable to do. Another advantage which it possesses over the latter, is, that cutting from all the branches forms vertical leading shoots, as readily as if they were seedling, a property which belongs to hardly any other species or variety of *Abies*.—*The Garden.*

A New Canada Apple.—A new apple, originated in Canada, by Mr. Charles Arnold, from a cross fertilization of the Wagener, Northern Spy and Spitzenburg, is highly spoken of by the *Canada Farmer*. In form, it is much like the Wagener, but has the coloring of the Spy. The apple is of medium size, having a yellow flesh, which is very tender and very juicy, of good quality, if not best, presenting a blending of the flavor* of the Wagener and Spy. We learn that the Fruit Growers' Association have made arrangements with Mr. Arnold to grow a sufficient number of trees of this variety to enable them to distribute one to each member as soon as they can be raised.—*American Rural Home.*



Dioscorea Illustrata.



Lilium Trigrinum Flore Pleno.

Editor's Portfolio.

Postage Prepaid.

After January first next, all postage on periodicals is required, by act of Congress, to be prepaid by publishers before copies are mailed. Subscribers therefore must pay postage to publishers, and not as formerly, each quarter, to their local postmasters. The advance postage on *The Horticulturist* will be ten cents per year, which must be added to all remittances of subscription.

A New and Valuable Pear.

A first-class seedling pear from the Bartlett (known in Europe as the Williams' Bon chretien) has been raised by M. Morel, of Vaise-Lyon, France, and is figured in a recent colored frontispiece of *The Revue Horticole*. The fruit is of good size, and handsome in shape and color; the flesh is white, fine-grained, melting, juicy, and agreeably acidulous; ripening from the end of September to the middle of October or later. The tree is an abundant bearer, and it also does well on the Quince. It is recommended by M. Carriere as being in every respect of first-rate quality. We call special attention of American nurserymen to the propriety of introducing it into America.

Colossal Asparagus.

A correspondent of *The Gardener's Chronicle*, who tried the Conover's Colossal Asparagus, although with some incredulity, at last is forced to say: "In point of size, this is a colossal variety, it far exceeds the *Giant* or *Battersea* of the same age, and under the same cultivation. In fact, the principal part of the stems on the *one year old beds* of Conover's, are as stout as those on the *oldest* and best beds of the old kinds. For forcing, Conover's Colossal will be an acquisition; it comes earlier than the other kind."

Another Humbug.

The Gardener's Chronicle favors its readers with a laughable description of a new humbug, just turned up there, and imported from America. (We never heard of it here, al-

though it might possibly have appeared in places remote from the head centres. Most of the humbugs palmed off on Americans, are engineered by foreigners from England, France and Prussia.) This is the title of the label:

Veni, Vidi, Multum in Parvo.

THE COREAN

PASA MA-SAKI,

OR THE

BLOOM OF PARADISE.

This sweet and beautiful scented grass plant sheds its sweet fragrance over the house all the year round. The seeds can be planted any time in the year, in dirt, sponge or cotton in a tumbler.

It does not give out its beautiful fragrance under ten or twelve days, and lasts five months before going to seed; water as other plants.

Price of packages, 15 cts., or 2 for 25 cts.; 800 seeds in each package.

Rules for Planting.

In sponge, wet well; in dirt, sprinkle the dirt over them, and water as other plants.

An Extraordinary Pear Tree.

A photograph has been forwarded to England, which has aroused the astonishment of their distinguished men. It is taken of a branch of pears grown from a tree on the ranch of Mr. Kereheval, near Sacramento, Cal., The branch was 4 feet 6 inches long; carried 265 pears (most of which were about 5 inches in length), the whole weighing about 110 lbs.

American Passion for Flowers.

It is stated that more bouquets (not button-hole) are made up in a single month in the city of New York than in the course of a whole year in the city of London. This is, perhaps, a trifling exaggeration, but Mr. Dickens said very much the same thing in writing of his American experience several years ago, so that it is evident that our love for flowers is sufficiently conspicuous to attract the attention of foreigners.

Blue Glass.

The Philadelphia experiments of General Pleasanton upon the organic influence of the violet ray have been repeated in France, and M. A. Poey has communicated to M. Elie de Beaumont, a letter on the influence of violet ray upon the growth of the vine, pigs and cattle.

Prices of Strawberries.

A Cincinnati marketer gives the following prices on a certain day of the different varieties of the strawberry in that city, showing the relative estimation in which they are held, either for their fine appearance or good quality; Jueunda, 50 cents (very showy); Triomphe de Gand and Seth Boyden, 40 cents; Kentucky and Agriculturist, 30 to 35 cents; Charles Downing, 20 cents; and Wilson's Albany, 10 to 15 cents.

Gardening in Florida.

A lady in Lake City, Fla., has growing in her garden a genuine cork tree thirty feet high, the bark on which is sufficiently thick to make bottle corks. There is also in the same garden a genuine black pepper bush, which yields regularly a full crop of berries.

Cultivation of Tropical Fruit.

The South says: We understand that a company has been formed for the cultivation of tropical fruit, and is in treaty for a tract of 640 acres of land at Biscayne Bay, at the southeastern extremity of Florida. This tract was a military post during the Florida war, and has growing upon it a large number of fruit trees, viz.: Banana, Plantain, Cocoa-nut, Orange, Lime, Lemon, Bread-fruit, Date, Guava, Mango, and others too numerous to mention. The capital of the company will be \$10,000, \$7,000 of which is already subscribed. Frost never reaches this place, the climate is delightful, winter or summer, and perfectly healthy.

Kansas Fruits.

The following is a perfect copy of a letter from a correspondent of *The Department of Agriculture*. It will be seen that this "inside view, puts Kansas fruits in very different lights, from the puffed celebrity gained by exhibitions at Eastern fairs, Leavenworth. "We had no apples worth counting. The State Society took some premiums in the East, but it was a mere "trick of business." They solicited a few good specimens from young orchards in favorable localities and artfully showed them up. In truth our apples are very knotty and poor, and not one-tenth

of a product; not one-fourth of a supply for the people here."

Agave Unrivittata.

This is now flowering for the first time in Europe, at the greenhouse of Mr. Peacock, Sudbury House, Hammersmith, England.

Arbor Day.

In Nebraska, they have what is called "Arbor Day." The State Board of Agriculture gives a premium of \$100 to the County Agricultural Society of the county in which the greatest number of trees are planted on the 10th day of April, and \$25 to the individual planting the greatest number of trees on that day.

Gov. FURNAS, in a letter to an exchange, says: A smart little boy, aged eight years, named Calvin Sigel Hall, Schuyler, Colfax county, Nebraska, went alone two miles from home, to the Platte river, dug up nine hundred and eighty young cottonwood trees, took them home and planted them all in one day, and by himself! Our board has awarded him a special premium of \$25.

A letter from Schuyler on the subject, of date July 13, says, "the trees are all growing nicely."

Lime for Peach Trees.

The Hon. John M. Clayton, of Delaware, who was a large and successful peach grower, found lime the best manure he ever applied to peach trees. He scraped the dirt off and applied from three to a dozen shovelfuls of lime fresh from the kiln to the naked roots. It killed the grubs and favored the growth of fruit. The editor of *The Plow* said, "certainly we have never seen more healthy looking trees than those of farmer Clayton." Sometimes one can kill the larvæ of the curculio under peach trees by a heavy dressing of lime recently slaked.

The Temperature to Germinate Seeds.

Seeds of hardy flowering plants require a temperature in the soil of about 50° or 60° to germinate well, and tender plants 75° and upwards. These facts should be borne in mind by those who would succeed with annual flowers, and the seeds be sown at corresponding periods in spring.

Strawberries.

At the discussions of the Illinois Horticultural Society, two cultivators of the strawberry pronounced the Wilson and Green Prolific as the two best and most productive sorts. Others objected to the Green Prolific as being too soft. It was stated that the Colfax is so rampant a grower that it kills all the weeds and takes care of itself.

Matching Pear Trees.

A writer in *The Tribune* mulches his pear orchard over the whole surface with salt hay, in June, and rakes it up in November. This gives fine crops, and protects the fallen fruit.

Lamentable Ignorance.

S. B. Parsons, in his address before the New York Rural Club, said, he had known an intelligent city lawyer call a dahlia a rose. John J. Thomas, says, as an offset to this, that he has known a country doctor call a poppy a rose at a public exhibition.

Gardening as an Art.

Mr. Parson also in his address, said: "Gentlemen of large income, with country places, the proper management of which would give more pleasure to a whole family than anything else, are unwilling to pay more than \$800 or \$1,000 per year for a good gardener, whose knowledge is the work of half a lifetime. They will give \$3,000 to a bookkeeper, whose knowledge can be acquired in a year; they will expend one to five thousand dollars in a camel's hair shawl or a pair of horses, and yet would think themselves very extravagant if they gave \$2,000 per year to a skillful gardener, who could produce for their use Muscat grapes and all other luscious fruits, and who could make their grounds and gardens like a veritable paradise. Once establish the fact that a skillful gardener can be sure of \$2,000 or \$3,000 per year, and numerous young men would give their education that direction. Wealthy men, also, who expect to leave their sons a horticultural education, both as a means of producing enjoyment for themselves, and as a profession upon which to fall back in case of disaster. Young men so educated will never become blase; the world is for them too full of delightful capabilities."

Wild Goose Plum.

The late J. S. Downer said of this plum that the flavor, if not equal to some of the popular varieties, was nevertheless good; that it is not proof (as often asserted) against the curculio, but the puncture does not seem to injure it; that it comes into early bearing and gives abundant crops every year, having failed but once with him in ten years. In Kentucky it ripens the latter part of June. The fruit is large, handsome, pinkish red.

Easter Flowers.

The flowers displayed in the churches of New York during Easter day, were magnificently costly. Hundreds of dollars were expended in private houses, and thousands in the churches. In a list of over one hundred Protestant, Episcopal and Catholic churches on Easter Sunday, not less than \$20,000 were expended for flowers alone. The displays at Christmas and New Years, are very fine, but not quite as much effort is spent as on Easter occasions. It is one of the most beautiful, pure and tasteful forms of celebration.

Tetofsky Apple.

A. G. Tuttle, of Baraboo, Wis., is mentioned by *The Western Farmer*, as possessing trees of this variety already bearing fruit, although not more than two years old. This early bearing quality together with the hardiness of the tree, and its early ripening, as well as beauty of fruit, will commend it particularly to thousands of Northwestern fruit growers, in sections now destitute of apples. Additional testimony is also given by *The Vermont Farmer* adorsing its cultivation in northern cultivation. This variety will be found to be a desirable one to plant where the Early Harvest does not succeed well. In point of richness of flavor it is not quite equal, but we are sometimes obliged to accept some deficiency of character that we may have fruit at all. It begins to bear fruit at two and three years of age, and yields very large crops every year. It is a very handsome apple, of medium size, beautifully striped with red on a yellow ground and covered with a light bloom. The flesh is white and juicy, with a pleasant, slightly acid

flavor. It makes a capital cooking apple. We strongly advise those who live in the colder parts of the State to give this apple a trial, believing that they will find it the best early ripening sort for their climate. Ripe early in August.

Killing Insects by the Gallon.

A writer in a French horticultural journal relates this suggestive experience: "After sunset I place in the center of my orchard an old barrel, the inside of which I have previously well tarred. At the bottom of the barrel I place a lighted lamp. Insects of many kinds, attracted by the light, make for the lamp, and while circling round it strike against the sides of the barrel, where, meeting with the tar, their wings and legs become so clogged that they fall helpless to the bottom. In the morning I examine the barrel, and frequently take out of it ten or twelve gallons of cockchafers, which I at once destroy. A few pence worth of tar employed in this way will, without any further trouble, be the means of destroying innumerable numbers of these insects, whose larvæ are amongst the most destructive pests the gardener or farmer has to contend against."

A Beautiful Bed of Geraniums.

According to *The American Rural Home*, there was this summer in Rochester, a geranium bed, approaching perfection as near as any ever seen. This bed undoubtedly owes its great success to the care exercised in propagating the plants, in assorting and transplanting them, and in the care which they receive all through the season. Cuttings of the finest plants of the Gen. Grant variety are made during the latter part of summer. These are kept in the greenhouse until the latter part of May, when they are assorted, and the most vigorous ones used. The bed is oval, or palm-leaf shaped, highest in the middle, and well manured with rotten stable manure, and decayed leaves. The bed is kept clean and mellow all through the season, and the fading flowers removed. The result is a mass of brilliant scarlet bloom from June to October.

Kew Gardens.

The number of visitors on one day, Monday, June 2, at the Royal Kew Gardens, near London, England, was no less than 59,152. Good order prevailed everywhere, and not a plant was damaged willfully or by accident. Such an audience to see plant exhibition only, never was heard of in America, although over 105,000 persons have been known in a single day to enter the fair grounds at St. Louis.

Winter Seckel Pear.

Specimens have been shown us from a subscriber in Central New York, of a seedling from the Seckel pear, but ripening as a winter variety; has a fine quality, though not quite as sweet or sprightly as the Seckel, yet more so than the Lawrence; firm flesh, a good keeper, russety color, brighter and better in this respect than the Seckel, and seems to be a very desirable acquisition. Doubtless there are more Winter Seckels scattered through the United States, yet this is stated to be a genuine seedling, and the fruit is really fine.

The American Garden.

The Flower Garden, originally published as a quarterly, at \$1 per year, by Beach, Son & Co., of Brooklyn, N. Y., has been changed in character, and, with the above new title, appears as a new horticultural journal, monthly, conducted by James Hogg, editor. The first number of any new journal is not always the best, and we doubt not Mr. Hogg will see the time when he can produce numbers, besides which this will be considered of little consequence. Almost every horticultural journal wins its way by some devotion to *special branches* of horticultural lore; we will, therefore, watch with interest the field which *The American Garden* will mark out for itself, and how it will fill it.

Error.

In Frontispiece for September, the title should read, *View of Sydenham Palace, London, England*. Two cuts were ordered, one of Kew Gardens and one of Sydenham Palace, and by error, wrong cut used with the above title.

Popular Science.

Australian Flora.—The *Brisbane Courier* publishes the official telegram from Mr. Walter Hill, the government botanist, dated from Cardwell, and received by the Queensland secretary for lands:

"We have examined the Mulgrave, Russell, Mossman, Daintree and Hull rivers, and have been more or less successful in finding suitable lands for sugar and other tropical and semi-tropical productions. The ascent of the summit of Bellenden Kerr was successfully made by Johnstone, Hill, and eight troopers. At two thousand five hundred feet in height, we observed an undescribed tree with crimson flowers, which excels the *Poiniana regia*, *Colvillea racemosa*, *Lagerstræmia regia*, and *Jacaranda mimosifolia*; at two thousand four hundred feet, a tree-fern which will excel in grandeur all others of the arboreous class; a palm tree at the same height which will rival any of the British-Indian species in gracefulness. On the banks of the Daintree we saw a palm-cocoa which far exceeds the unique specimens in the garden of the same genera from Brazil, in grandeur and gracefulness. While cutting a given line on the banks of the river Johnstone, for examining the land, an enormous fig tree stood in the way, far exceeding in stoutness and grandeur the famous giants of California and Victoria. Three feet from the ground it measured one hundred and fifty feet in circumference; at fifty-five feet where it sent forth giant branches, the stem was nearly eighty feet in circumference."

Plantains as Food.—Among the starch-producing plants extensively cultivated for food in tropical countries, and which are destined to add immensely to the food-supply of colder climates, are yams, bread-fruit and bananas, including the variety known as plantains. The last family rivals the sago-palm in affording the maximum amount of food for the minimum amount of labor. The yield to the acre is in bulk forty-four times that of the potato, and the proportion of

starch is somewhat greater. The fruit is also richer in other elements of nutriment, so that the meal prepared by drying and grinding the plantain core resembles the flour of wheat in food value. It is easily digested, and in British Guiana is largely employed as food for children and invalids. The cost of preparing the food can not be great, and the supply might be unlimited. The proportion of starch is seventeen per cent.; in bread-fruit it is about the same; in yams it rises to twenty-five per cent., but is hard to extract, owing to the woody character of the roots.

Flowers in Mexico.—One thing which strikes one pleasantly in Mexico is the wonderful abundance of flowers. All the year round crowds of Indians sit at the street corners in the early morning, making and selling for a real (sixpence) bouquets, which in London or New York could not be got for a guinea. Roses, verbenas, heliotropes, and carnations grow like weeds; and besides the made-up bouquets the Indians bring down on their backs from the mountains, loads of the Flor de San Juan (bouvardia), a flower like a white jessamine, and for a quartilla (three half pence) you can buy an armful of it, which will scent a whole house for a week. Our rooms were always fragrant with the bouquets which came in fresh every two or three days, and sometimes round the hanging baskets in the windows a lovely humming-bird would hover, and dip his long bill into the flowers for honey.—*The Garden.*

Great Old Oaks.—The Wadsworth oak, at Genesee, N. Y., is said to be five centuries old, and twenty-seven feet in circumference at the base. The massive, slow-growing live oaks at Florida are worthy of notice on account of the enormous length of their branches. Bartram says: "I have stepped fifty paces in a straight line from the trunk of one of these trees to the extremity of the limbs." The oaks of Europe are among the grandest of trees. The Cowthorpe tree is seventy-eight feet in circuit at the ground, and is at least 1,800 years old. Another, in Dorsetshire, is of equal age. In Westphalia is a hollow oak which was a place of refuge in the

troubled times of mediæval history. The great oak at Saintes, in Southern France, is ninety feet in girth, and has been ascertained to be 2,000 years old. This monument, still or recently flourishing, commemorates a period which antedates the first campaign of Julius Cæsar.—*Science Monthly*.

Remedial Action of the *Ailanthus*.—The ailanthus, as an ornamental and shade tree, has of late years gone into disrepute on account of the offensive effluvium of its male blossoms, and its planting in Washington was positively forbidden by an act of Congress—at least an appropriation for the District of Columbia, made some years ago, was granted upon the condition that no ailanthus trees should thereafter be planted in the city of Washington. The tree is, however, one of very great value as a timber tree, and is highly recommended, for growth upon the Western prairies, as its development is extremely rapid, and the wood is equal to chestnut in mechanical properties. It is one of the largest trees known, being said to attain a height of 300 feet in China. Very little attention has been directed to its medicinal virtues; but according to Dr. Robert of the French naval fleet in the waters of China and Japan, the bark of the root, in the form of a powder, is more efficient in the treatment of dysentery than ipecac, calomel, astringents, opiates, etc. For this purpose, one part of the bark of the root is cut into very fine pieces and pounded up in a mortar, to which one and a half parts of warm water are added. The whole is to be allowed to stand for a sufficient time to soften the bark, and it is then strained through a piece of linen. The infusion is administered in doses of a table-spoonful morning and evening, either pure or in a cup of tea. This is to be continued for three days under a very strict dietary regimen. After that, bread and milk may be given, and subsequently, ordinary diet. If at the end of eight days a cure is not effected, the treatment may be renewed. This substance is extremely bitter, and its administration frequently produces nausea. In Dr. Robert's experience, a complete cure was

almost always brought about within eight days; in only one instance was it necessary to renew the application.

The Effect of Camphor on Seeds—Curious Experiments.—Some curious and all but forgotten experiments of much interest to agriculture and gardening, observes a London paper, have lately been revived by a German savant. Very many years ago it was discovered and recorded that water saturated with camphor had a remarkable influence upon the germination of seeds. Like many another useful hint, the stupid world took no notice of this intimation; but a Berlin professor came across the record of it, and he appears to have established the fact that a solution of camphor stimulates vegetables as alcohol does animals. He took seeds in various sorts of pulse, some of the samples being three or four years old, and therefore possessing a slight degree of vitality. He divided these parcels, placing one moiety of them between sheets of blotting-paper simply wetted, and the other under strictly similar conditions between sheets soaked in the camphorated water. In many cases the seeds did not swell at all under the influence of the simple moisture, but in every case they germinated where they were subjected to the camphor solution. The experiment was extended to different kinds of garden seeds, old and new, and always with the same result of showing a singular awakening of dormant vitalism and a wonderful quickening of growth. It also appears from the professor's researches that the young plants thus set shooting continued to increase with a vigor and vivacity much beyond that of those which are not so treated. On the other hand, when pounded camphor was mixed with the soil, it appeared to exercise a rather bad effect upon the seeds. The dose in this latter case was possibly too strong. At all events there is here a line of inquiry well worth following up by seedsmen and gardeners; and even farmers might try how far wheat and barley would profit from the strange property which seems to be possessed by this drug over the latent life of vegetable germs.



RUSTIC FLOWER STAND FOR THE LAWN.



CORRESPONDING EDITORS:

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Horticultural Societies.

The Forty-sixth Annual Exhibition of the Massachusetts Horticultural Society

WAS held September 15th, 16th, 17th and 18th, and on the whole, was fully equal to the splendid exhibition of last year. The fruits were shown in the upper Horticultural Hall, and though the pears, which always constitute the most prominent feature of the fruit shows of this society, were not as good as last year, it must be remembered that that crop was much above the average. Native grapes, owing to the lateness of the season, were not in as large quantity or as well ripened as usual, but on the other hand, the peaches and apples were much more abundant and of better quality than last year. The vegetables in the lower hall were excellent, both in quantity and quality, and we were glad to see that this important department of the exhibition attracted more attention than ever before. The plants and flowers were shown

in Music Hall, and though less imposing than last year, there being not so many of the large tree ferns and other plants which gave one the impression of walking in a tropical grove, we thought it more beautiful and the arrangement an improvement. The cut flowers, instead of being placed under the balconies, were arranged directly in front of the stage; a fine belt of gladioluses, asters, etc., relieving the green of the palms, ferns, and other plants, while another stand and a table covered with floral designs filled the gallery at the end of the hall. In the center of the hall was a fountain, the basin surrounded by flowering plants, and the sides of the hall where the cut flowers were placed last year, were occupied with semi-circular stands, two on each side, one filled with a large and varied collection of evergreens from H. H. Hunnewell, another with new and rare plants from James Comley, and the other two with the prize collections of ferns. The plants being so arranged that none interfered with the view of the others, the whole exhibition could be seen at once from the stage, presenting a most beautiful appearance.

The prizes for the best twenty varieties of pears were awarded: 1st, to Alexander Dickinon, for Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Clairgeau, B. Hardy, B. Superfin, Dana's Hovey, Duchesse d'Angoulême, Howell, Lawrence, Louise Bonne of Jersey, Marie Louise, Merriam, Onondaga, Paradis d'Automne, Seekel, Sheldon, St. Michel Archange, Urbaniste; 2d, to Hovey & Co., for Adams, Andrews, Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Hardy, Dana's Hovey, Doyenne Boussock, D. du Comice, Lawrence, Marie Louise, Merriam, Onondaga, Paradis d'Automne, Pratt, Seekel, Sheldon, St. Michel Archange, Urbaniste; 3d, to Joseph H. Fenno, for Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Clairgeau, B. Hardy, B. Langlier, B. Superfin, Doyenne Boussock, Duchess, Esperine, Golden Beurre of Bilboa, Howell, Lawrence, Louise Bonne, Onondaga, Seekel, Sheldon, Urbaniste, Winter Nelis; 4th, to William R. Austin, for Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Clairgeau, B. Hardy, B. Langlier, B. Superfin, Clapp's Favorite, Doyenne Boussock, D. du Comice, Duchess, Lawrence, Louise Bonne, Onondaga, Passe Colmar, Sheldon, Urbaniste, Wellington, Winter Nelis.

The first prize for the best collection of new pears was awarded to Marshall P. Wilder, for Bernard Goisneau, Mima Wilder, Grace Wilder, and Eddie Wilder.

The prizes for the best twenty varieties of apples were awarded: 1st, to Asa Clement, for Pound Sweet, Foster Sweet, Lysecom, Summer Sweet Paradise, Danvers Winter Sweet, Foundling, Pumpkin Sweet, Kilham Hill, Gravenstein President, Hubbardston, Cole's Quince, Porter, Williams, Northern Spy, Holden Pippin, Mother, Roxbury Russet, Baldwin and Nodhead; 2d, to J. H. Fenno, for Golden Russet, Queen of the Orchard, Seaver Sweet, Rhode Island Greening, Porter, Challenge Sweet, Baldwin, Summer Pippin, Maiden's Blush, Williams, Alexander, Drap d'Or, Roxbury Russet, Hubbardston, Gravenstein, Minister, Danvers Winter Sweet, Dutch Codlin, Northern Spy,

Orange Sweet; 3d, to Hovey & Co., for Sykehouse Russet, Alfriston, Kerry Pippin, Cullasaga, Coe's Golden Drop, Hornead Pearmain, White Doctor, Striped Pearmain, Bickley's White Sweet, Wormsley Pippin, Humrickhouse, Porter, Pennock, Scarlet Pearmain, Cooper, Smith's Cider, Cole's Quince, Golden Russet, Tufts, and Tompkins County King.

Mrs. T. W. Ward showed a fine collection of plums, and also received the first premium for a single dish, the variety being Jefferson; 2d, to S. Pratt, for Coe's Golden Drop; 3d, to Stiles Frost, for Reine Claude de Bavay. Amos Bates also exhibited a good collection of plums.

The handsomest peaches shown were a magnificent dish of Crawford's Early, from H. H. Hunnewell, grown under glass. John Falconer showed a very handsome collection of Stanwick and other nectarines, peaches, and plums from his orchard house. His Albert Victor nectarines were very fine. Mrs. E. M. Gill showed good specimens of Foster's seedling peach; J. L. D. Sullivan a seedling white nectarine of excellent quality, and E. Brock and George Johnson handsome nectarines.

F. L. Ames exhibited two bunches of Victoria Hamburg grapes weighing $5\frac{1}{2}$ and $4\frac{1}{4}$ lbs., the largest we have ever seen—and handsome Bowood Muscats, Muscat Hamburgs and Black Hamburgs. E. W. Wood exhibited Black Hamburgs, Victoria Hamburgs, Wilmot's Hamburgs, Buckland Sweetwaters and White Frontignans; and Mrs. T. W. Ward, Black Hamburgs, Wilmot's Hamburgs and others, both these collections being well grown and finely colored. C. M. Atkinson also exhibited an excellent collection of six varieties, including Grizzly and White Frontignan, White Sweetwater and others.

Of native grapes, the Moore's Early, exhibited by the originator, John B. Moore, was probably the ripest shown, and received the prize for the "best of any other sort" than those specified in the schedule. A handsome collection of twelve seedling varieties was shown by E. W. Bull, but too unripe to

judge of their quality. John Fillebrown showed a wild grape with a remarkably large and handsome cluster. Josiah Newhall, Miss Lucy Bowditch, and Walker & Co., showed good specimens of figs. A. J. Hillbourn, Sicilian nuts (filberts), and John B. Moore, Hornet raspberries. A dish of Orange pears from a tree in Salem, 235 years old, attracted much attention. This venerable tree is more than three feet in diameter and forty feet high, and bore $8\frac{1}{2}$ bushels last year and 3 bushels this year. Of pears, 527 dishes were shown; apples, 257 dishes, and of all kinds of fruit, a total of about 1,000.

The show of vegetables was so uniformly good, that it is difficult to particularize. Perhaps the most interesting collections were the new varieties of potatoes, from B. K. Bliss & Son, of New York, and E. S. Brownell, of Essex Junction, Vt. Messrs. Bliss exhibited the Snowflake and Alpha, the latter said to be ten days earlier than Early Rose, and also the Conqueror tomato, claimed to be ten days earlier than any other. Mr. Brownell exhibited Early Nonsuch, Eureka, Brownell's Beauty (also specimens of the crop of 1873) and Early Rose. Several kinds in both these collections were exhibited for the Whitcomb prize of \$200, for the best seedling potato, to be awarded four years hence. J. J. H. Gregory exhibited a new squash which he deems superior to the Marblehead, of light green color mottled with white, and having a very hard shell.

The principal prizes for plants were: 1st, to William Gray Jr., for the best twelve greenhouse and stove plants, one of the best grown collections in the hall, comprising *Bonapartea juncea*, *B. gracilis*, *B. filifera*, *Yucca aloifolia variegata*, *Dracæna arborea*, *Phenix reclinata*, *Latania borbonica*, *Cocos plumosa*, *Chamædora elegantissima*, *Phormium tenax* var., *Chamærops excelsa*, and *Agave univittata*; 2d prize for the same to Hovey & Co., whose collection included a very fine specimen of *Dracæna Veitchii*, fifteen feet high; a *Pandanus ornatus*, extra fine; *P. reflexus*, a splendid *P. elegantissimus*, a very fine *Chamærops Fortunei*, *Cocos coronatus*, etc.

The 1st prize for specimen plant, not variegated, was awarded to W. Gray Jr., for a very fine *Yucca recurva*; 2d, to Hovey & Co., for *Pandanus Vandermeerschii*. For the best specimen flowering plant to Mrs. T. W. Ward, for *Stigmaphyllon ciliatum*; 2d, to Hovey & Co., for *Allamanda Hendersonii*.

For the best six variegated leaved plants to James Comley, for an unusually fine collection, comprising *Abutilon niveum variegatum*, *Dracæna Chelsoni*, *Croton Veitchii*, *C. Weismannii*, *Phormium Colensoi* var. and *Dieffenbachia Bausei*; 2d prize to Hovey & Co. For the best specimen variegated plant to F. L. Ames, for an unusually fine *Cissus discolor*; 2d, to W. Gray Jr., for *Phormium Colensoi* var. F. L. Ames and Hovey & Co. received the 1st and 2d prizes respectively, for *Caladiums*, both collections being very fine.

For the best twelve ferns, the prize was awarded to William Edgar, gardener to Hon. William Claflin, for *Adiantum Farleyense*, *A. cuneatum*, *A. formosum*, *A. concinnum*, *A. amabile*, *Gleichenia Speluncæ*, *Pteris serrulata major magnifica*, *Cyathea princeps*, *C. regale*, *C. Schiedei*, *Gymnogramma Peruviana argyrophylla* and *G. calomelanos*; 2d prize to J. W. Merrill, for *Adiantum scutum*, *Cibotium Schiedei*, *Davallia ornata*, *Dicksonia antarctica*, *Dictyogramma Japonica* (new), *Gymnogramma Wettenhalliana*, *Lygodium circinale* (new), *L. scandens*, *L. palmatum*, *Notholæna rufa* (new), *Polypodium cuspidatum* (new), and *Pteris tricolor*. Both these collections were exceedingly beautiful. Mr. Claflin's plants were larger, but Mr. Merrill's included several new varieties.

The 1st prize for six ferns was awarded to Joseph Clark, gardener to Mrs. Ward, for a very handsome plant of *Lygodium scandens*, *Adiantum trapeziforme*, a magnificent plant, three feet in diameter; *A. macrophyllum*, a peculiarly attractive species, having the young fronds tipped with reddish chocolate, etc.; 2d prize to J. W. Merrill, for *Nephrolepis Yollingerianum*, and other new and noticeable kinds.

For *Lycopods*, the 1st prize was awarded

to William Claflin, for a very fine collection; 2d, to Walsh Brothers, whose plants though smaller, were distinct. Hovey & Co. received the 1st prize for *Dracænas* and also for Palms, including a very fine specimen of *Seaforthia elegans*, fifteen feet high; 2d prize for Palms to Wm. Gray Jr. The prize for the best new pot plant was awarded to C. S. Sargent, for *Cocos Weddelliana*, a new dwarf palm for table decoration.

Messrs. Hovey & Co.'s large palms added very much to the general appearance of the exhibition. They deserve great credit for their exhibition of plants, filling five stands, besides a fine collection of evergreens for which they received the Hunnewell prize.

L. Menand, of Albany, N. Y., filled two stands in the center of the hall with a fine collection of plants, among which were two excellent specimens of *Araucaria Bidwilliana*, *Bonaparteia (Dasyliirion) glauca*, *B. histrix compacta*, *Zamia (Encephalartos) l'Hommeii*, *Pilocereus senilis* from Mexico, and a plant raised from a cutting of the same, much less hairy, *Phalenopsis grandiflora aurea*, a rare and beautiful orchid; *Cypripedium Lowii*, *Cycas Kimmionianum*, *Agave Verschaffeltii* and *A. Xalapensis*, both fine specimens, *Retinospora obtusa*, variety *nana variegata*, *R. lycopodioides variegata* and *Camellia Japonica fol. var.* We do not recollect ever to have seen a collection of plants brought so far as Mr. Menand's, but notwithstanding the long journey, they arrived in perfect condition, and were greatly admired. They were carefully labelled with the names of their native countries, which added much to their interest.

Mr. Hunnewell's beautiful collection of evergreens comprised sixty varieties of every color, from the delicate glaucous hue of *Retinospora decussata*, to the golden tipped *Thuya George Peabody*, *Retinospora obtusa aurea*, and *R. picifera aurea*; and every form from the fine foliage of *Thuya Youngiana* and *Cryptomeria elegans* to the coral-like branches of the *Araucarias*. Among the most striking kinds were *Biota elegantissima*, *Cupressus Lawsoni* and *erecta viridis*, *Cephalotaxus drupacea*, *Retinospora squamosa*, *Araucaria*

Cookii and *A. imbricata*. Among the new and rare plants shown by James Comley, were *Cupania filicifolia*, *Aralia Veitchii*, *Cyanophyllum Bowmanni*, *Dioscorea illustrata*, new *Caladiums*, *Coleus*, *Cissus*, *Crotons*, *Begonias*, etc. James McTear exhibited *Desmodium pendulifolia*, said to be hardy.

Fine collections of dahlias were shown by George Everett, Macey Randall and S. G. Stone. The cut flowers were contributed by John Parker, G. A. Law, James Comley, James O'Brien, A. McLaren, W. H. Spooner, C. H. B. Breck, and were better kept up than ever before. Mr. Breck also showed a fine collection of Lycopods, *Caladiums*, *Colens*, *Crotons* and other hot-house plants. James Nugent contributed two large bouquets for the Bradlee vases. Baskets of flowers, bouquets and designs were contributed by Mrs. E. M. Gill, James Nugent, Miss S. W. Story, Mrs. A. D. Wood, Hovey & Co., Mrs. S. Joyce and M. W. Pray—Mrs. Wood's table design being particularly admired. Mrs. C. S. Horner exhibited a beautiful stand of wild flowers, and Henry Youell, Richard Allison, and James Lester designs for laying out flower gardens. On the stage were arranged collections of rare and curious cacti, *sempervivums*, *echeverias*, and other succulents from L. Guérineau, Hovey & Co. and John C. Hovey, and of Agaves from C. S. Sargent.

At Horticultural Hall, George Craft exhibited a large and beautiful stand of gladioli, and John Cadness, of Flushing, N. Y., a profusion of flowers of the new *Hydrangea paniculata flore pleno*. Plants for the decoration of the fruit tables were also contributed by Hovey & Co. and John L. Bird. R. M.

Juniperus Excelsa Stricta.—This new evergreen shrub is recommended by the English journals for planting on terraces and in similar situations. Its form is pyramidal and elegant, the color of its leaves silvery; the young plants are very striking.

For roses it is found that the briar is the best stock on a clay soil, and the Marietti stock on a sandy or light soil.

The Greenhouse.

Greenhouse for November.

THE Greenhouse will be the principal point of attraction during the present month; for, excepting a few Chrysanthemums in sheltered nooks, there will be few flowers remaining out of doors in the north and middle States; so that every attention should be paid to keeping the house as neat and attractive as possible, by attention to clean pots, and removing dead leaves, and placing the most attractive flowering and foliage plants in the best position. Now is also a good time to carefully examine all plants likely to be infected with insects. There is usually more leisure for that kind of work at this season, and most plants having completed their growth, will bear more handling without injuring the foliage, than at an earlier date.

Camellias should be sponged over the foliage to remove dust, before the flowers commence to open; it not only improves the appearance of the plants, but is a great benefit also. If any of the plants have traces of red spider, some sulphur and whale oil soap should be mixed in the water used; for nothing but dust, clean water is best.

Azaleas must be kept cool if required to flower late; and although at this season, when at rest, they do not require frequent watering, care must be taken that the plants do not get very dry, and that a good soaking is given when required. Young plants, and any required to flower very early, must be placed in the warm part of the house; but in this, especially, thrip will require guarding against, or much damage will be done. But all the plants should have a thorough washing with soap and tobacco water at this season, as previously recommended. This will usually prevent much trouble from insects during the succeeding season, unless the plants are neglected.

Bourvardias must be placed in the warm part of house, if expected to flower well. If the house is not kept above 50° at night, little beauty must be expected from these plants.

With careful watering and a regular heat these plants are easily grown, and will be free from insects; but if the heat is irregular and infested plants are near, nothing becomes more dirty; but if grown in a very high temperature, the flower lasts but a short time after being cut. This also applies to many other winter flowers and foliage when cut.

Orchids.—We have received so many inquiries about this interesting class of plants, which it takes too much time to answer separately, that we considered a few general hints would be acceptable to our readers, without devoting a long paragraph to an individual species. *Dendrobiums* will have completed their growth for the season, and must be placed in the full sun and kept dry, but not allowed to shrivel, or the flower will be small. The principal thing is to get a good, strong growth, and to well ripen it, when the plants will be sure to flower. *Cattlegas* will have finished growing, except the *Trianae* varieties, which flower during the winter from the young growth. These all require plenty of light, and to be kept moderately dry; but in this climate few species require to be kept so dry as in England, especially when grown on blocks. *Oncidium*, *Cavendishii*, and *Ornithorhynchum* will now be in flower, and must be placed in shade from bright sun, or the flowers will soon fade. The crinitum varieties of *Zygopetalon* will be in flower, and must be watered when required. These are fine and easily grown, and the flowers last a long time in full beauty.

Cypripedium Insigne is one of the best winter flowering plants we have, and requires no special treatment. It will grow and flower well in any greenhouse. We usually grow our plants in the *Camellia* house, and remove them to a house a trifle warmer about this time. The flowers of this species will last for three months in a greenhouse or sitting-room. These plants must never get very dry, although in a cool house at this season they do not require watering often. Most of the other species of *Cypripedium* require a little more heat than the above, and are chiefly summer bloomers, except *Ræzli* which in strong plants will flower all the year.

Laëlias are splendid winter orchids, such as *anceps*, *Superbiens*, *Autumnalis*, *Acuminata*, and *Albida*, can all be depended on for winter flowers, and grow best in a cool house. These last for a very long time in full beauty, with little attention. *Stanhopeas*, if grown in baskets, will require no water for several weeks; if grown on blocks, must be soaked in tepid water occasionally. We may mention that it is necessary to grow these plants either on blocks or in baskets, for the flower spikes come from the bottom of the plant, and if grown in pots has not power to develop itself. All this class of plants is subject to a small, white scale insect, which must be removed by occasional sponging with water.

Chinese Primulas will now be in flower. These plants require careful watering. If wet over the foliage, they often rot off at the surface of the pot. The double white variety is one of the most useful winter flowering plants grown.

Cinerarias require to be kept cool, in a damp part of the house, for in a dry atmosphere they are very subject to thrip, red spider, and green fly, and will require gentle fumigating with tobacco, but are easily injured if the smoke is very strong and hot.

Verbenas must be kept cool, and well supplied with water. A little frost does these plants less harm than a hot dry house. These plants should be fumigated once each week, as a preventive,

Pelargoniums and *Geraniums* must not be over watered, and receive as much ventilation as possible, without exposure to cold, drying winds, which would brown the edges of the leaves.

Bromeliaceans Plants.—In reply to a correspondent, and thinking it might also interest others of our readers, we give a few notes on the culture of these curious plants. First, it must be noted that all the finest plants of this genus are natives of the tropics, principally growing on trees and rocks in South America and the West Indies, although the well-known, so called, moss found growing on the trees in the Florida swamps, can scarcely be called a tropical plant. There are also a

few other larger growing species found in the southern states, growing on trees, but these are of little beauty in the eyes of the general cultivator, the flowers being small and of a dull color. These plants are seldom seen in any but botanical collections, but can easily be grown on blocks of wood in any ordinary greenhouse. We may mention that all the various genus, in the above natural order, require the same treatment, excepting a few of the very strong growing sorts, such as *Bromelia Karati*, and a few others, which in growth so nearly represent the common pine apple, without any valuable fruit, that they are seldom grown. The above-mentioned species thrive with the same treatment given to the pine apple, and need not be mentioned in this article. The *Nidularias*, *Achmeas*, *Vresias*, *Bilbergias*, and *Tillandsias*, are all more or less curious and interesting. Some, such as *Achmea Zebrina*, have variegated leaves, so nearly the color of a rattle snake, that some of our visitors on first seeing the plant have started under the impression that one of those reptiles had free quarters among the plants; others, such as the *Nidularias*, have the top foliage of a bright color, and the *Tillandsias* and *Bilbergias* have the flowers and floral leaves of the most brilliant and delicate color.

The cultivation of these plants is very simple; in fact, if allowed to scramble over a rock work in the full sun of a tropical house, they will take care of themselves; but as few of our readers can spare a place for that purpose, we will give a few notes on cultivation in pots. *Achmea Zebrina* is a capital plant to grow on the surface of large *Aerieles* and *Vanda* pans; it fills the spagnum with roots, and flourishes to perfection. The remaining species we grow in pots; five and six inch sizes are usually large enough, for these plants do not require much pot room, and but little soil, being generally found growing among moss on trees and decayed stumps. The soil best suited for the plants is rough peat and moss in about equal parts, with the addition of some sand, grit, or charcoal. The pots require to be well drained, so that water may pass freely, for the plants require a good quan-

tity during the summer, and to be well syringed. In the winter little water need be given, and if in a cool house, must be kept quite dry, and the water not allowed to settle in the crowns, or the heart will decay. In a hot, dry house, the water which collects in the crown like a cup is of advantage, being the natural reservoir to supply the wants of the plant in the dry hot weather of its native locality. Some of the species will make two growths, and flower twice during the year; at the same time there is usually another shoot starting from the bottom to take the place of the one which has flowered, which, like the pine apple plant, only fruits once from same growth. At any time after flowering the old shoot may be cut clean away, but we usually allow the young growth to be well advanced before doing so; frequently there will be roots formed on the young growth; but if not, it can be cut clean away from the old stem and put in a small pot, it will soon form roots if kept rather dry and hot for a time. Frequently there will be other shoots come from the old stump, which may be preserved if desirable for that purpose. The plant gets on one side from each fresh growth, or it would continue to grow and flower from same pot, without disturbing, for a number of years. A small white scale is sometimes troublesome, and must be cleansed away before it becomes established, or the plants had better be thrown away.

Pot Roses, excepting a few required for early flowering, these are best kept in a cold frame, where no watering will be required; those advancing into young growth must have careful watering, and be dusted with sulphur if mildew is seen; in fact, a sprinkle of sulphur is a good preventive, and a light fumigation with tobacco will prevent green fly.

Baskets.—The most desirable plants for winter baskets, either for rooms or greenhouse, are *Echeverias* and *Epiphyllums*, the earlier varieties of the latter will be now commencing to flower. These plants require very little attention, and are always satisfactory.

Crassula Lactea must now be allowed to get rather dry, and have the full sun, or it will not flower much. *Eucharis* must be also

kept rather dry for a few weeks, but not enough to lose its foliage. If the plant is in good condition, and it has a brisk heat, it will flower well at the New Year.

Gesnerias, of the *Zebrina* class, if grown in a warm house will now be in full beauty, and make a fine show. They require liberal watering at this season, but be careful not to wet the foliage.

Grape Vines, if grown on the roof of greenhouse may be now pruned, and the stems painted with clay and sulphur. This is the best preventive for mildew, which is very troublesome among European vines in this country. The vines should be turned down to the coolest part of the house, to prevent premature breaking of the buds.

Conservatory Climbers.—***The Dipladenia***.—*Dipladenia* is one of the modern favorites in the list of conservatory climbers. The *Gardener's Record* thinks too much prominence cannot be given to it; for, "like many climbing plants, it blooms best when grown prominently forward near to the glass, and perhaps to perfection near to the roof of an intermediate house, with general temperature not below about 55°. *Dipladenias* are natives of Central America, and belong to the order of *Dogbanes*, a name given by Dr. Lindley to a certain class of plants, which I believe Linnaeus described as having contorted or twisted-like flowers, with corollas resembling a cathe-rine-wheel firework in motion. To this family belong the *Periwinkle*, the *Oleander*, etc. With twining habit, and large graceful flowers nearly five inches in diameter, in form like a *Convolvulus*, and with color varying from pale pink or French white, to clear delicate rosy pink, I know not any more lovely climbing plant for summer, and what is commonly called early autumn. It may be grown from layers, from cuttings, and from seed.

Double Blue Paeonies.—These are supposed to be genuine plants of *Blue Paeonies* in existence in China; for Chinese drawings have made their way to England, and are in the possession of an English horticulturist.

Travels.

A Remarkable Collection of New Hybrid Grapes.

BY HENRY T. WILLIAMS.

IT was the writer's fortune this fall to examine a collection of new hybrid grapes, of such remarkable characteristics and superior excellence, that one may be justified in calling it the choicest now extant in America.

Ten years since, Mr. James H. Ricketts, of Newburgh, N. Y., owning a little cottage and garden on the hillside in the city, with practical love of horticulture, in the leisure moments spared from his business occupation, began the study and experiment of hybridizing grapes, both native with foreign, and foreign with each other, and testing their seedlings in the open air. If there were any place more unfavorable for such a test, we have never seen it. In the summer time with exposure to intense heat; in the winter to severe cold, with ground poor, and sloping to the northeast, it seemed as if any vine that succeeded here, ought, in all fairness, to do well in the average climate of the United States. His experiments have yearly grown in interest, and the fame of some of his successes have already been known to some of the most observant horticulturists; still it has remained to the trials of the present fall, to give a reliable verdict. His methods of hybridizing are, of course, known only to himself, but all kinds of experiments have been tried, the pollen sometimes being kept till two or three weeks old, and then applied. Again, the caps have been taken off four days in advance of the time usually taken by nature. One other person in Canada, pursuing his trials, studies and experiments in almost the same track, has yet made a complete failure in every case, and where the secret of Mr. Ricketts' success can be, doth not yet appear. It is sufficient only to judge of the results as we now find them. Mr. Ricketts' collection may be divided into three classes: 1. Black grapes. 2. White grapes. 3. Wine grapes. There are now seventy-five seedlings in all growing

in his garden, and of them all, we may truthfully say, not one is an inferior variety. A large portion of these vines are but two years old, some three to four, while but few are older. Still, the sorts which exhibit most marked excellence, are the older varieties, and the newer ones develop traits more valuable with each year of increasing age. About one-quarter of the collection may be classed fully as hardy as the Concord, and the rest not yet fully determined, although they have all been largely exposed to the winter for the past two years, without suffering injury.

The *Secretary* is a large, beautiful black grape, which has already become known. It originated with Mr. Ricketts in 1867. The original vine fruited the next year after the seed was planted. It is a seedling from the Clinton and Muscat Hamburg. A large vine is trained upon a trellis near Mr. Ricketts' house, and some of the bunches were nearly a foot long, and well shouldered, the flavor is excellent, sweet, vinous, bunch hangs well, berry firm; good market sort.

It is a little curious to note here the following incident: Mr. Ricketts taking one day to Charles Downing seven of his seedlings, and requesting an opinion, was surprised and delighted to find him class five of them as better in flavor than the Muscat Hamburg itself. An opinion from so high a source gives decided character to the value of the collection.

The finest white grape of the collection is No. 93 *A*, *Imperial*, a white seedling from Iona and Sarbelle Muscat. The berry is very large, of a fine white color, with considerable bloom; bunch quite large, regular, with slight shoulder; no pulp, no seeds, splendid flavor, with traces of the Iona-Muscat aroma. Vine exceedingly vigorous grower; ripens about time of the Isabella; oldest plant is now four years. Mr. Ricketts has given me the pleasure of bestowing upon it a becoming name, which in honor of its superior merit, I now name "The Imperial," for it seems thus far to be the best white out-door grape yet originated. Perhaps its most valuable feature is its hardiness; standing the winter well, when Concord was killed.

No. 207, *H*—White grape, slightly yellow, quite sweet, thick pulp, bunch nearly as large as the Catawba. A seedling from Concord and Allen. Vine now two years from seed, and bearing this season five bunches; fully as productive as the Rebecca. From the same origin came other seedlings, all of uniform excellence.

No. 72 *B*—A seedling from Hartford Prolific. Black, rich, red pulp, musky flavor, sweet, pulp small, very productive, ripens between the Concord and Isabella.

Don Juan—A very large bunch, amber berry. Parent, Jena and General Marmorica; very hardy, ripens with Isabella, vinous, but not very sweet, bears a few very large bunches.

No. 37—Vine is four years old; bears forty bunches this season; extra large berry; a seedling from Concord and Jury Muscat, exceedingly productive, a good market grape, carries well, berry firm, soft pulp, flavor fair, not sweet, a very strong growing sort.

No. 176—Dark amber color, six weeks earlier than Iona, flavor sweet and richer than Iona, a seedling from Delaware, but has more life and spirit than its parent; in size of bunch also superior.

Clinton Seedling, No. 6—Foliage wonderfully hardy, thick pulp, slightly acid, but exhibits strong vinous quality, and in the wine scale test, it ranks ahead of the Delaware; immensely productive.

No. 186—White, seedling from Clinton, considered a good wine grape, large berry.

No. 207, *B*—A capital eating grape, white, sweet, very hardy, extra stout canes, beautiful colored fruit, bunch moderate size, loose but well shouldered.

No. 12, *B*—Black, bunch extra large, one foot long, one shoot often bearing three bunches, strong canes, wonderfully hardy, moderately sweet and vinous, thick pulp, consider it an extra good variety; the sweetest grown in the collection.

No. 12, *A*—Has more juice, less pulp, and really more enjoyable as a family grape.

Adelaide—Black, sweet, vinous, strong, heavy foliage, thick leaf, as large a berry as the Union Village, good bunch, very productive.

Ricketts' No. 1—Plump berry, very large, long bunch, very firm, keeps growing till cut off, not a sweet flavor, still not acid.

No. 157, *D*—White, seedling from Concord, earlier than the Hartford by ten days to two weeks, thin skin, large berry, round bunch, sweet flavor, juicy, wood like the Concord, very hardy.

No. 157, *A*—A brother of 157, *D*—very late.

No. 158, *B*—Black, transparent, loose bunch, large, excellent flavor, juicy, quite as good as Senasqua.

No. 14—White, seedling from Israella and White Tokay, ripens with Isabella, largest of all the white varieties; hangs firmly, both bunch and berry firm, tough skin, quite sweet, bunches extra large, some will weigh nearly two pounds; really a first-class variety.

Quassaic—Black, very regular bunch, a seedling from Clinton and Muscat Hamburg; novel flavor; a trace of the Clinton, but more pleasant; no more acid than is agreeable; its fine looks and its firmness are its best characteristics; one of the prettiest vines ever seen, filled with large bunches; one vine has grown as much as 25 feet from young plant in a year.

Concord, No. 1—Enormous berries, each a mouthful, flavor moderately vinous and sweet; when well ripened, quite pleasant; large, well shouldered bunches, moderately productive.

Raritan—An accidental seedling; best wine grape in the world; was tested with thirty and forty others, including Delaware and Walter, and ranked 112°; The Walter marked 3½ per cent. acid; Raritan marked six per cent. No European variety has ever ranked as high in the wine scale as this.

No. 10—Very good flavor, juicy, large plump berry, hangs on firmly, tough skin; seedling from Hartford and Purple Damascus.

Advance—A natural wine grape; the only wine grape which has a natural effervescence; a good eating grape, very regular bunch, large berries, black, tremendously vigorous, hardy, and astonishingly productive; a first-class vine.

In view of the fact, that the Iona does not

succeed here, and the Diana has to be plucked off, so as to leave but one bunch to a shoot, to ripen well, it seems as if vines like those described above, with such excellent flavor and vigorous characteristics, must be destined to a celebrity of more enduring character than the average of new American varieties. From our own personal examination, we can honestly state, not one of all the white sorts exhibits a flavor as inferior as the Martha, and are uniformly larger in berry and bunch. Neither was any white variety less pleasant than the Croton in flavor, and but one possessed a slight musky perfume of the black grape; neither was inferior to Concord, although many not as sweet; while even if no other sorts were deemed valuable as table grapes, the acquisition alone of *Raritan* and *Advance* as wine grapes, would mark an era in the grape history of the United States.

It is necessary to express all opinions with caution, for the history of horticulture in the United States has too many records of death-blows to enthusiasm over new fruits which fail when transferred to localities beyond the place of origin; yet, every active horticulturist will rejoice with pleasure at such signal advance in so new and promising addition to the pomological treasures of the country. Mr. Ricketts' collection is a valuable one financially—\$10,000 would be a fair estimate of its worth, and we trust they will soon be disseminated and he will receive their full value.

Conservatory Climbers.—*Beaumontia grandiflora*, one of the most magnificent climbing plants in cultivation. It is a native of the East Indies, and is frequently treated as a stove plant. Indeed, I have had it myself in a stove for years, but never succeeded in flowering it there, though I tried all I knew. On this account I turned it out in a conservatory border, giving it abundance of drainage, and a soil composed of rich turfy loam and fibrous peat in equal parts, with a liberal addition of charcoal and silver sand. The leading shoots were not stopped till they had filled their allotted space, but the side shoots were

kept pruned to one eye from the old wood, thus inducing the formation of spurs. Under this treatment it never failed to produce an exuberance of its lovely white trumpet-shaped blossoms.

The genus *Kennedya* contains several very beautiful climbing plants, of which *K. Marryatta* and *K. Macrophylla*, are two of the best. It is scarcely necessary for me to refer to their management, as they will grow and flower under almost any circumstances, at least such has been my experience of them. I have grown them in peat and sand, in loam and sand, and in a mixture of all three, and they did equally well in each case. *Hardenbergia Comptoniana*, which is closely allied to the genus *Kennedya*, is another very handsome climber, and well worthy of cultivation. *Zichya coccinea*, another near ally of *Kennedya*, is also deserving of attention.

Ipomaea Learii—This is a most charming plant, and no conservatory or greenhouse where climbers are grown should be without it. It is a most rapid growing plant, covering an immense surface, and ramifying into an astonishing number of strong, healthy branches. Where this plant is trained to the roof of a house for shade, and where it is merely fastened beneath the rafters in a general way, it should always be supported by wires running parallel to the direction in which it grows, and by tying or nailing it up according to the usual practice. Its twining habit renders it desirable that it should have something round which the branches can coil, and stout wire or slender rods afford this desideratum. When the blossoms commence expanding, they require to be screened from the more powerful rays of the sun. Opening in the morning, they change color and fade long before mid-day if exposed to the solar rays, but when they are brought below the foliage, the latter is commonly sufficient to protect them. It succeeds well in a soil composed of equal parts rich turfy loam and leaf-mould, and requires a good share of root room. *I. mutabilis* and *I. pulchella* are also two desirable species, requiring somewhat similar treatment.—*Gardener*.

The Pleasure Ground.

Miniature Gardening.

An Evergreenery.

BY ANDREW S. FULLER.

THE word "Evergreenery" may be hardly proper; but I can find no other which suits my purpose so well or will better convey an idea of the thing I propose to describe. *Arboretum* is a higher sounding word, but not applicable, inasmuch as it means a collection of both deciduous as well as evergreen trees.

There are many persons residing in the suburbs of our large cities and villages who own but a small plot of land, frequently not more than one or two city lots; consequently they seldom attempt much more in the way of ornamental gardening than to set out a few cheap bedding plants or sow seeds of common annuals, on account, as they suppose, of lack of room to do anything better. It is to this class in particular that I recommend the miniature evergreens; while others, who have plenty of land and means, can use the larger kinds in addition.

There was a time, not long ago, that to talk of a variety of evergreen trees or shrubs suggested extensive grounds; but, happily for those with limited means, and gardens, those days are past, and now those with a few rods square of land may deal with pearls and diamonds, leaving the coarse and lofty materials to the more fortunate possessors of extended acres. During the last decade or two our horticulturists have been picking up here and there in various parts of the world many rare species and varieties of dwarf evergreen trees and shrubs, until the most enterprising among them have extensive collections of this kind, with which a most elegant display of rich and varied foliage may be made even in a very small garden.

The value of these miniature evergreens for small gardens can scarcely be over-estimated—not only on account of their permanent beauty, but their appropriateness for

just such places seems to harmonize with the modern ideas of high art in gardening.

The fitness of things in general is seldom studied or thought of by the masses when trying to arrange the little garden-plot in front or elsewhere about their dwellings. Hence, the frequent planting of giant pines and spruces by the dozen within limits which would not suffice for one full grown tree.

I do not believe our people are so stupid or stubborn that they will refuse to accept a good thing when it is shown them; but fine examples of grouping dwarf or other evergreens are exceedingly scarce, even under the very circumstances where one would naturally expect to find them most abundant.

Once let the small evergreens become popular for grounds of limited extent, or, in other words, awaken sufficient interest in the subject to provoke inquiries in regard to the adaptation of plants to places, and the far too general practice of setting out trees for immediate effect, without the least thought as to their appearance in the future, will soon become one of the follies of the past.

To put the subject in a more practical form. I will suppose a man has but a small plot in his garden which can be spared for this purpose—say a bed ten feet wide and twenty or thirty long. Now, two of the larger growing evergreen trees, like the Norway spruce, would soon fill this space; but, if the dwarf kinds are taken instead, two or three dozen could be planted therein without crowding, affording an opportunity of introducing a very pleasing variety, besides being appropriate, which always indicates a high order of taste.

Another advantage in cultivating the dwarf evergreens is that, should any of the species or varieties be somewhat tender in cold northern localities, they are readily protected in winter, which is not the case with larger growing kinds.

Those named in the following list are all quite hardy in the vicinity of New York city, although in a few instances the foliage becomes somewhat faded during very cold weather. A slight protection, just enough to

afford shade during winter, will prevent injury.

Arbor vitæ.—Of the American *Arbor vitæ* (*Thuja occidentalis*) there are several beautiful dwarf varieties, well suited to cultivation in small gardens.

Booth's dwarf is a very neat, compact bush, and of a lively, cheerful shade of green.

Globosa is, as its name indicates, globular in form, and the foliage of a deep rich green color. Plants in my ground, fifteen years old, are three feet in diameter, and about the same in height, and as perfect as though turned in a lathe.

Ericoides is a very pretty variety, with very fine, soft leaves, like a Heath; hence its name.

Tom Thumb is one of the most curious as well as beautiful varieties ever raised from our native species. It assumes a somewhat conical form and its leaves are soft and fine. It browns in winter unless shaded.

Lutea, or American Golden, is a new dwarf variety, with the ends of the branches of a clear, bright golden color. It is very hardy, and the rich golden color of its leaves gives a pleasing contrast with the dark green of other kinds when planted in groups.

Argentea, or Silver-tipped *Arbor vitæ*. This is a very pretty variety, with the branches tipped with white.

Eastern *Arbor vitæ* (*Biota orientalis*).—Of these there are also many beautiful varieties; but as a class they are not as hardy as our native sorts. Still some of them are worthy of a place even in the choicest collections.

The Chinese Golden *Arbor vitæ* is a very pretty variety, with fine foliage of a light yellowish green. Another variety, known as the "Elegant" (*B. elegantissima*), has the branchlets tipped with golden yellow. Mel-den's *Arbor vitæ* (*B. Meldensis*) has very fine soft leaves, similar to the Tom Thumb, but not quite as deep and rich in color. In winter, unless protected from the sun, the leaves change to a brown or reddish color.

Junipers.—This genus furnishes us some very desirable dwarf species and varieties.

The common Savin (*Juniperus sabina*) and the variegated-leaved variety are two of the best for small gardens, as they are low, compact growing shrubs, with fine, handsome foliage. The Trailing or Creeping Juniper (*J. squamata*) and Tamarack-leaved (*J. sabinoidea*) should always be planted at the extreme outer edge of a group, as they creep over the ground or form a very dense, low bush. They are very hardy, handsome, and desirable.

Taxus, or Yews.—Few plants have been more praised in prose and poetry than the Yew, and it deserves all that it has received. It is scarce in the gardens of this country, owing perhaps to its conservative character, there being none of the rapid-growing "spread-eagle" habit about the Yews which is so "taking" among our people. But it is to be hoped, in the good time coming when we think as well as act in all matters pertaining to homes and their surroundings, the Yew, which is the personification of fixedness of purpose and steady habits, will become as popular in this country as it ever was and is in Europe, and we shall be able to say of men and their gardens: "Well do I know thee by thy trusty Yew."

I will not try to discriminate between the dozen species and varieties cultivated by our nurserymen, because one can scarcely go amiss in selecting one or more, as all are suitable for small gardens, none growing very large during a lifetime; and, should a specimen pass beyond prescribed limits, the pruning knife or shears may be freely used in bringing it back. There are golden and variegated-leaved varieties, in strong contrast with the dark green foliage of the parent species. Our native Yew (*T. Canadensis*) should never be omitted from the list of dwarf evergreens. Its deep green foliage and bright red berries in autumn are merits which place it high in the estimation of all lovers of beautiful plants.

Pines.—There are few of the true pines which are admissible in a small garden or in a group of evergreens such as I have proposed. Mugho Pine (*Pinus Mugho*), from the

mountains of Central Europe, may, however, be introduced as a dwarf, although an occasional specimen will assume the tree form, instead of remaining a dwarf shrub. A handsome specimen in my garden, fifteen years old, is only about two feet high and four in diameter. If a plant inclines to grow too tall, it may be kept down by cutting off the leading shoots. Another variety, called the "Knee Pine," never grows on its native mountains (the Alps) more than three feet high.

Retinosporas.—We are indebted to Japan for these beautiful little evergreens, although but few of them are hardy in this latitude. The most desirable among the hardy sorts is *R. aurea-plumosa*, the foliage of which is soft, fine, and of a brilliant golden color, fully sustaining its name of "golden plume." I fear that few persons will be satisfied with a single plant of this in a group, for, when dotted here and there among the dark-colored foliage of other kinds, they seem to give light and life to the picture, the strong and striking contrast adding much to the beauty and brilliancy of both.

Spruces.—Like the pines, there are comparatively few spruces sufficiently dwarf in habit for the city or village garden. But the few that are suitable are gems of their kind, and the most beautiful of all is a native of New York State, having been found upon the banks of the Hudson, a few years ago. It is known as the Weeping Hemlock, and may be considered to be among the evergreens what the Weeping Willow is among deciduous trees—i. e., the "Queen of Weepers." I regret, however, to add that it is still scarce and not yet in market, but probably will be very soon.

There are also several varieties of the spruce of a very dwarf habit. One known as the "Pigmy" resembles the Norway Spruce in everything except size—a full-grown specimen scarcely exceeding three feet in height. Another variety, called *Gregoryana*, forms a neat little dense ball of green, one to three feet in diameter and about the same in height.

There are also many other varieties belonging to the same genera or species as those

named above; but I have named enough to show that there is no lack of materials with which to satisfy those who may desire to make a fine display. But, as I have already hinted, there are other evergreen shrubs, not belonging to the "cone-bearing" section, which should not be omitted in forming groups, either large or small; and first on the list I would place our native *Kalmias*. The *Kalmia latifolia*, or Broad-leaved Laurel, has no superior among what are termed "broad-leaved evergreens." The unopened pink flower of this plant is a marvel of beauty and symmetrical proportions, and when in full bloom we have no flowering shrub more attractive.

The Narrow-leaved *Kalmia* (*K. angustifolia*) is much more dwarf in habit, and the flowers are deep red, approaching a crimson, when grown in a half shady situation.

Next to the *Kalmias* the *Rhododendrons* should come in for a share of attention. They are, however, coarser growing plants, and should be placed in the center or so as to form a background to the less rapid growing kinds. Of course, I refer to the rapid-growing species, like our native *R. maximum* and *R. Catawbiense*; for there are among the exotic species some which are of exceedingly dwarfish habit. The species and varieties are almost innumerable; but comparatively few of them are perfectly hardy or thrive in our changeable climate. Still there are enough of the really superb sorts to satisfy any one who may wish to indulge in cultivating rare or common *Rhododendrons*.

We have also other kinds of dwarf evergreens—such as *Eunonymus*, *Ilex*, *Aucubas*, *Rhodora*, *Daphne*, *Calluna*, and *Mahonias*—which may be appropriately introduced to give variety and add to the richness of large or small plantations. The "Evergreens" may be composed of cheap or costly plants, to suit the purse or taste of the owner, for novelties among evergreens command a high price, as well as in anything else. The costly kinds may be introduced if one can afford it; still the older and cheaper gems are fully as desirable and beautiful as the new and rare.—*The Independent*.

The Flower Garden.

Carpet Gardening.

BY JOSIAH HOOPES.

THIS term, although applied indiscriminately to all manner of flower-beds, is really a very expressive title for the system which employs only the dwarf-growing plants, arranged in intricate patterns, and set so closely as to combine a decided mass of colors and forms. It is distinguished from Ribbon-gardening, as we understand the two terms, by the fact that the latter may be composed of such tall-growing plants as *Abutilon Thompsoni*, *Achyranthus Lindenii*, *Coleus* of sorts, etc., whilst the latter, as we before stated, must be dwarf in habit, either naturally, or else by close planting; and should in all cases be very carefully worked up. It is a disputed point, whether or not this system of gardening is admissible on our lawns; but that it is exceedingly attractive and highly ornamental, there can be but one opinion. It belongs to the highest grade of landscape art, and finds its place properly in the so-called Italian gardens, where all its surroundings are of a formal and precise order. In the company of neatly clipped evergreens, beautiful terraces, elaborate fountains, statuary and vases, the "Carpet-beds" are at once appropriate, and suggestive of beauty in an artistic sense.

The one insurmountable obstacle in the way of its general introduction, is the fact that so great a number of plants are required to form even the smallest sized beds, that the enthusiastic florist calculates with dismay the drain that will have to be made upon his purse before a fine effect can be produced.

Perhaps the finest examples of this peculiar style may be found in the sub-tropical grounds of Battersea Park, near London, where almost every available plant is brought into play, and used in a variety of ways. The system is likewise in vogue at Sydenham, at the South Kensington Gardens, at Kew, and is especially fine at Hampton Court Palace. At the latter place, where great attention has,

within the past two or three years, been paid to this feature, may be found the greatest diversity of patterns, although not so elaborate nor so grand as at Battersea. It would be an idle task to undertake to give even general directions how to lay out these beds, and arrange the various plants therein, as the taste of the gardener must here be exercised; but we suggest, as suitable for our climate, the following list of good sorts, that, as a general rule, will succeed in our usually hot, dry summers.

In the first place, we need plenty of *Sempervivums*, of which family our old House-leek is a good illustration.

The so-called *S. Californicum*, which is in reality *S. calcareum*, is splendidly adapted for this work, as it spreads out well, and the extreme points of the leaves are prettily tinged with dull red. Then we have a neat and very interesting little species called *S. arachnoideum*, or the Spider's-web Houseleek, which proves very conspicuous on account of its white web-like threads intersecting each other in all directions; in some cases completely covering the plant with an exquisite veil.

The *S. tabuliforme* belongs to the larger class of species, but works in well as a central plant, or for forming an inside boundary. *S. globiferum* is likewise one of the best; but in fact, out of so many species belonging to this genus (perhaps seventy-five or eighty in cultivation), it seems invidious to particularize.

The *Sedums* constitute another genus of succulents which are nicely adapted for this work. *S. acre*, the most common species, works well, but requires constant attention to keep it within bounds; but there is a new form of it, with golden-yellow foliage, which will perhaps supersede it for edging. The best of the family, however, is, beyond a doubt, the elegantly variegated varieties of *S. Sieboldi*; but, unfortunately, the conspicuous stripes and markings are liable to be lost if the green shoots are once allowed to get the upper hand.

S. Orientale is a glorious species, but almost too large for our purpose. This genus,

like the preceding, is very large, and embraces quite a number of kinds suited for carpet-gardening.

Still another genus of succulents is the *Echeveria*, with fewer species than the foregoing, but all available. Prominently we may call attention to the *E. metallica*, a large, fleshy-leaved kind, that is covered with a pinkish bloom. *E. secunda*, and *E. secunda glauca*, are invaluable for this style of planting; and *E. sanguinea*, when young, is useful as well. There are a few rare species that will in time make capital bedders, but, probably, not superior to those already enumerated.

The *Lobelia* genus supplies us with several showy little species and varieties, which, unfortunately, do not succeed so well with us as they do in England. The blue, white, and pink flowers of the various sports, taken in connection with the dwarf, compact habit of the plants, render them invaluable for this "rule and line" system. We might say, in passing, that *L. pumila grandiflora* is about the only variety that seems to hold its original peculiarities when grown from seed. The others must, therefore, be increased by divisions of the plant. As summer draws towards a close, the *Lobelia* needs a close trimming, when it will throw out a young set of shoots, and again deck itself with a profusion of its delicate little flowers.

The *Cuphea platycentra* makes a valuable addition to our list of dwarf, free-flowering plants. From early summer to late autumn it is always decked with its wealth of scarlet, tubular bloom. It is readily propagated by cuttings, and, if set thickly in the row, will form a desirable contrast with the preceding:

Cerastium Bierbasteeni and *C. tomentosa* are each valuable, as they make a dense carpet of silvery-white foliage, exceedingly pleasing to the eye. A new and deservedly popular plant, sent out under the name of *Stellaria aurea*, or "Golden Chickweed," will in time prove one of our very choicest aids in working out complicated patterns. Another golden-leaved plant, and one that is unsurpassed where it succeeds properly, is the now well-

known Golden-Feather; a *Pyrethrum*, with yellow leaves, which does not behave handsomely in all situations. We have seen it the past summer, both in Europe and in this country, where it was certainly a gem in the collections. It needs to be frequently and closely pinched-in, to make it a suitable plant for the work we are attempting to describe. Another set of prettily colored plants will be found in the genus *Alternanthera*. In rich soils, with us, these will grow too luxuriantly; but, by close planting and quite frequent clipping, similar to that recommended for the Golden Feather, they can be made very useful among our smallest plants. Two entirely new candidates for popular favor come under the heading of very low "trailers," and are equally effective for tracing intricate patterns. The first, *Othonna crassifolia* is a pale-green, succulent plant, laying close to the surface of the bed, and blooms regularly all summer long. The plant itself is quite handsome, however, even without bloom, and has withstood the hot, dry weather of the past season charmingly. We predict for it a "long run." A fit companion for this is found in our other novelty, the *Mesembryanthemum cordifolium variegatum*; a long name for an exquisite little creeping plant, which has fully justified the encomiums heaped upon it by its introducers. Its white and yellow markings glistening in the sunlight, with myriads of tiny, silver-like specks, at once places it in the front rank of miniature plants. These two are among the best basket-plants of which we have any knowledge; and for planting around the edges of vases, where the trailing stems may hang down, they are particularly effective and useful.

A second season's trial of the golden-leaved *Peristrophe* has proven that, in one locality at least, it makes a marked feature in "carpet-beds." In one of the hottest, dryest positions possible, it has grown finely, and has shown a much richer color than other plants of the same variety in the shade.

The variegated Sweet Alyssum forms a good contrast to the brilliant-leaved plants, as the foliage is prettily striped with white, and,

when grown thickly, becomes dense in habit without much attention on the part of the gardener.

The hardy, herbaceous plants furnish us with many useful species for carpet-gardening; for instance, some dwarf *Gnaphaliums*, *Achilleæ*, *Saxifragas*, etc. Then, again, we have several very pretty annuals of small size that will work up in this way very usefully, such as *Sweet Alyssum*, *Portulacca*, *Ageratums* (dwarf sorts), and others similar plants.

In preparing a bed for the purpose of forming handsome designs of the character treated of in this paper, we should bear in mind that a sloping bank will show the figures to much better advantage than a dead level; consequently, the bed should be raised high in the middle, and carefully rounded off to the edges. In England it is customary to have a perpendicular edge of, say, six or nine inches in height, which is plastered with clay. This we unhesitatingly condemn, as in poor taste. Others, again, set this edging with *Sempervivums* of sorts, and this is a decided improvement over the first; but we cannot help thinking that the most preferable plan of all, is to allow the slope of the bed to reach the level surface without a break, and then form an edging of about three species of *Sempervivums*.

The soil should at once be light, moderately rich, and sandy, as the majority of the plants enumerated prefer such to one that is heavy.

We should recommend a compost, prepared one year in advance, of old chopped sods, a little old manure, and some sand; this, if occasionally stirred through the season, will give perfect satisfaction when in use. If the season should prove dry, a frequent watering must be given, as an exposed bed of this character will need more attention than a flat surface. True, the succulents used in the planting thrive, as a rule, with very little moisture; but, after all, they are benefited by that little, judiciously applied.

Now is the season to prepare for the work next year, and the exact number of each species desired may readily be ascertained; and work should at once be commenced upon their

propagation by all who have the proper appliances. Better have a few too many than not quite enough, as the plants must be *set thickly* to produce the finest effects.

Best Geraniums.—The following is a list named by the *American Farmer* as really choice: "Jean Sisley is the best and most distinct scarlet geranium in cultivation. Geraniums Gen. Grant and Lucius are good. Gen. Lee (Buist) is an excellent violet. Crimson variety Arthur Pearson is *just splendid*. Coleshill is excellent. Master Christine, Christine Nilsson, Christine, Heleod Lindsey and Maid of Kent are pink varieties unsurpassed. Mark Twain is distinct and good. So is Blue Bell. Rollerous Unique, London Blue and Macbeth are beautiful in flower and foliage."

Celosia Huttonii.—In answer to a question whether this plant has come up to expectation, Briggs Bros., of Rochester, say that they consider it "the finest *dark-leaved* foliage plant that we possess that can be raised from seed; being nearly as dark, and of a much finer and more compact habit than the now well-known *Iresine Lindenii*, forming dense bushes about 15 inches high, and 20 inches in diameter, the same season from seed. It succeeds much better than the *Iresine* when planted out of doors, and is excellent for the ribbon border, vase or basket."

China Asters.—An English gardener, after trying the various kinds of Asters of recent introduction, recommends the following:

For large beds, the *Hamburgh Prize*, *Pæony Perfection*, the *Victoria*, the *Cockado*, and the *Hedgehog*, are the most desirable.

For medium sized beds, ribbons, etc., the *Dwarf Chrysanthemum*, the *Dwarf Victoria*, and the *Schiller Dwarf Pyramidal* are the finest; being compact, and of even growth, bearing their flowers conspicuously above the foliage.

To cut for bouquets, the *Imbrique Pompon*, and the *Dwarf Bouquet elegantissima*, are of the most exquisite colors, and perfect models in shape, varying from the most miniature to the size of a *Pompon Chrysanthemum*.

Gardening.

Curculio Catching.

DR. HULL, of Alton, Ills., is probably the most successful fruit grower of the West. From 1,930 trees this year, he captured not less than 153,000 curculios, and he tells the Alton Horticultural Society how he did it: "Early in the season I commenced a series of experiments to determine, if possible, at what particular period of the day curculios were at rest. On three different days I dropped a number of curculios in flour, and near sundown of each day put them in the forks of the trees and watched them until they crawled into some place of concealment which was usually in the crevices of the rough bark, and into depressed parts made by cutting off limbs of trees. Out of 30 insects thus watched to places of rest all concealed themselves as stated, except one, which went to the ground and crawled under a clod of earth. Out of 30 insects thus watched, all but one were found early the following mornings just where they went to rest at night.

Again, I made other tests with marked insects by placing them on the trees in the morning. This experiment was repeated on three successive days, employing 30 insects each day. Near sunset the trees were thoroughly jarred over a curculio catcher. This experiment resulted in the capture of 27 of the 90 insects on the trees on which they were put, and at different times since in other parts of the orchard 49 of these marked insects have been jarred down, leaving 16 yet at large.

From these tests I infer curculios, as a rule, rest at night and fly freely by day. They make clear what every practical man when jarring trees must have observed, viz., that these insects fall near the center of the catcher, because places of concealment are most numerous near the trunks of the trees, and for this reason, also, a small curculio catcher is nearly as good as a large one, provided the trees are jarred during the colder part of the day."

Water-melons.—Muscatine Island, Iowa, is the most famous place in all the Northwest for this delicious fruit. I asked a farmer upon that large island how many acres of water-melons were estimated to be there. His answer was *one thousand*, and his neighbor said that was probably an under-estimate. The island is a large, level plain of sandy land; hence its adaptation to melons and sweet potatoes. The melons grow large, and of the sweetest and best quality, mostly a variety called Black Spanish, large, round, dark green, red core, and very sweet. They are well known in Chicago, Omaha and St. Paul, and have been sent to Duluth, Denver, Buffalo, New York, etc. Their weight is 10 to 20 pounds—sometimes 40. They sell by the wagon load at \$8 to \$10 per 100, and market declining to \$5. One hundred make a good two-horse wagon load, filling a wagon with side-boards, that will measure 50 bushels. They retail by our fruit men at 10 to 15 cents. The way to eat them is to cut them in two halves equatorially, then four persons to each half, with spoons in hand, making sugar water of all of it but the hard rinds. They are usually satisfied for hunger and thirst with one melon after dinner.—*Suel Foster, in Country Gentleman.*

Insects, Slugs, Etc.—The cultivation of fruits in this region is an almost incessant battle against insects. In addition to our old pests, we have now in Medford (five miles from Boston) and adjoining towns, a slimy slug voraciously devouring the pear leaves, and, for want of them, cherry leaves. I first noticed this insect in my garden, three years ago. It is about three-eighths of an inch long, and of a blackish green color—making up in number and greediness what it lacks in size. Some pear trees were denuded by these slugs in early summer, and afterwards put out new leaves. Some shed their badly eaten leaves the latter part of the summer and remained bare the rest of the season.

What is the best remedy against these pests? One of my neighbors used a solution of whale oil soap with perfect success. In the morning, when the leaves were wet, I threw

wood ashes over some of my trees and air-slaked lime over others. The slugs covered with lime were killed; but most, if not all, of those sprinkled with ashes survived. A new tribe of these insects appeared about the first of September.

MYSTIC.

Medford, Mass.

Effects of Culture on Currants.—A correspondent of an exchange says: "About fifteen years ago I received as a present cuttings of the following varieties: White Grape, White Dutch, White Crystal, Cherry May, Victoria, Large Red Dutch and Black Naples. After planting in the usual manner, I took particular pains to cultivate them well. Every spring the ground has been top-dressed profusely with ashes, leached and unleached, well incorporated with the soil under and around the bushes, and has been kept from grass and weeds. Immediately after this application they are mulched with barnyard or chip manure. The result has been that I have never failed of a large crop of the finest and largest fruit, and entirely free from the worm. Near these bushes (perhaps sixteen rods away) I have some of the old common varieties, which have not been similarly treated, but left to take care of themselves, and, as a consequence, they are nearly destroyed by the worms; the leaves during the past two summers being entirely, and many of the smaller twigs totally destroyed. I have come to the conclusion, therefore, that larvæ of the currant worm lie dormant during winter in the ground near the bush they intend to attack the next season, and that mixing wood-ashes with the soil destroys them. I do not profess to be an entomologist, but I certainly arrive at no other conclusion. I am now growing quite a number of bushes in the tree form, *i. e.* one bush only in each place, six feet apart each way. The advantages consist of easier cultivation, easier gathering, and larger and finer fruit."

Melons.—The following is recommended by a gardener who has had remarkable success: "I dig holes twelve inches square, eight or ten inches deep; fill up with well-rotted horse manure to the surface. On this put

two inches of soil. Then take a four-inch flower pot; set in the center; draw the remainder of the soil around the pot, until the soil is about four inches deep, then giving the pot a twist round, withdraw it. This leaves a hole four inches deep by four wide. In this drop five or six seeds, and cover to the depth of three-quarters of an inch. Over this place a pane of six by eight glass, pressing it lightly to fit close. I then give no more attention till the plants are touching the glass. Then go through, taking a small stone, raise up one end of the glass with it; this admits of a circulation of air over the plants and hardens them. In about three days more remove the glass entirely. By this time they will be in the rough leaf; thin out to three plants in a hill, draw a little fine soil around them, up as high as the seed leaf, and the work is done."

The Canker Worm.—After testing different prescriptions for twenty years, a writer in *The American Agriculturist* concludes that the simplest and best way to barricade the canker worm is to make bands of sheathing-paper six or eight inches wide, tack them around the trunks of the trees, and then cover them with refuse printer's ink. The ink costs $12\frac{1}{2}$ cents per pound, requires from two to four applications each season, and the entire expense is about ten cents for each tree annually.

A New Winter Salad.—*The Garden* gives the following: "Ordinary buckwheat, grown in a moderately warm greenhouse, and cut like mustard when about two or three inches high, makes a delicious winter salad. It can be grown in pans all the year round without the least trouble, and even when lettuces are plentiful will be found a very desirable addition to the salad bowl."

A correspondent of the *Farmer's Home Journal*, who keeps one hundred fowls among his apple trees, says they destroy every insect that can injure the fruit, and he thinks they offer the best way of getting our orchards in good bearing condition.

Fruit Culture.

New Grapes as Proven in 1874.

BY S. J. PARKER, M.D.

AS proven this year of 1874, the following grapes are worth attention :

Croton.—This grape in the Cayuga Lake Valley is healthy, hardy and prolific. Has a longish, loose bunch, with large berries, and also smaller ones. Bunch, six to seven inches long, and three to four broad. Golden yellow, with thin, white bloom. It ripens slowly, and hence those eating it early, and partially ripened, will be apt to condemn it as sweet but flavorless. Fully ripe when Concords are also fully mature ; it is juicy like the foreign sweet water ; sweet, and with a low grade of aroma, but what aroma it has is pleasant. It will not do to eat it with other and higher flavored grapes, as they make it seem insipid. But fully ripe, and eaten alone, it will, I think, be considered valuable, and be sought after. Like all white grapes, both European and native, it is apt to have a few berries rot and slink away in nearly all its bunches, but not to much extent.

Walter.—Grown on Concord and Isabella roots. This is a grape large in berry and bunch. I must class it with high flavored grapes—it having at this place a strong honey-sweet aroma, that lasts long on the taste nerves of the mouth. This flavor is so strong as to destroy the aroma of less decided flavors. Hence it can be eaten alone, by itself, or with others. The grape on its own roots is less vigorous, and with less aroma. It is healthy and hardy here.

The Ithaca.—This is my own seedling, This grape ripens before Delaware and Concord, still proves hardy, healthy and vigorous. It is in bunch and berry larger than Walter ; a pure greenish yellow, with a rose-like smell, and a high Chasselas Masque-like flavor, similar to, but not as high as its partial parent, it being a cross of Chasselas on Delaware. A few berries rotted this year ;

not many. The fruit by the quantity looks well, both in baskets and when it is packed in boxes. Sold for thirty cents a pound against Delaware and other grapes at ten cents. A cold August was against it this year, yet it was the second in earliness and the best in quality of all grapes here.

Wyoming Red.—This grape which I have so long entreated the public to enquire for and plant, has at last become one sought after, and it is being rapidly diffused, so much so, that the few thousands propagated here, yearly, cannot supply the demand. Its great value is, that it is hardy, prolific, and ripens in advance of all other grapes, and hence sells well. The whole crop here, sold at twenty cents or more, and did not supply the local demand for it. It is not the best in quality, as it is a Fox grape, but is a good grape ; red, about the size and appearance of Walter ; not as choice in flavor, but sweet and agreeable.

Nathan C. Ely.—This is a seedling of David Thompson, of Green Island, near Troy, N. Y. Unexpectedly to me its bunch proved remarkably large, so much so, as to take us all by surprise. Bunches, nine inches long by five wide, were very common. Several were a foot long and eight inches through the shoulder. The berry is medium-large in size, yellowish-green, very closely set in its crowded bunch. It appears in shape and form like an European grape, just as if it had been grown under glass. It is probably three-fourths foreign pollen. It resembles no foreign grape I have any knowledge of, though I am familiar with most of the usual and some rare kinds as grown under glass. At Ithaca we have in this vine, that on a common vineyard trellis, totally unprotected in the open out-door air, ripens its fruit, a magnificent bunch and a fine appearing berry, with perfectly healthy foliage and ripened wood. Yet it is a matter of regret that it is late, coming to maturity after Concord, ripening just before Isabella. Vines load themselves with these splendid clusters. I also regret that it is less sweet and less in aroma than Croton. Indeed it is deficient in sugar and flavor.

Farmers' Club.—This is another of David Thompson's grapes, less in size of bunch than the N. C. Ely. The vines on the grounds of Mr. Tucker of this place, are not yet old enough to say exactly what this will prove to be, yet its flavor is better than the N. C. Ely, berry is greener and more even in their size.

Most of David Thompson's black seedlings are late, and appear like enlarged Isabellas, as far as I have proven or seen them here; thus the Ketchum, S. J. Parker and others are but feebly to be commended, so far as proven. The Carpenter is a large, red grape, cannot be grown here unless the vine is taken down off the trellis and covered with earth each winter, a thing we do not do in proving new seedlings—it being my rule to let all vines sent me for proving die, unless they can endure the Ithaca climate, tied on the open air trellis in exposed situations. The Carpenter dies to the surface of the ground every year.

A gentleman whose name I have forgotten, about forty miles north of Pascagola, Miss., several years ago, sent me by mail a vine, saying it is an early white grape, very sweet, and I wish you to try it. Having no confidence in it, I paid but little attention to it. This year it was loaded with not a white, but a red grape, which in flavor and appearance is very similar to, but far better than the Sugar grape of the Shakers, of New Lebanon, near Albany, N. Y., on the stage road to Pittsfield, Mass. The Shaker grape I condemn. This I can commend as a "Sugar grape," very sweet, singular in the "Shaker" flavor, prolific in bearing, with a cleft leaf also similar to the Shaker. Its larger bunch and berry, its sweetness and hardness at the north are its principal features after its very peculiar flavor. It falls like Hartford from the stem. It is also a Fox grape.

Such are a few grapes out of the many proven, and which may interest the readers of THE HORTICULTURIST. I have tried to speak impartially and truly of them as they appear to me, this season, until the October rains gave us very fine grapes.

Experience with Pears.

By D. B. Wier. From paper read before Madison Horticultural Society, Wisconsin.

Clapp's Favorite.—I have fruited this two years, and consider it a valuable addition to our first-class pears, both for family use and market. It is claimed to be a cross between the Flemish Beauty and Bartlett. It resembles the former very closely in tree and leaf, and appears to be equally hardy with that famed "iron clad" variety. In fruit it resembles the Bartlett somewhat in size and color and here it ripens about ten days earlier. It is a sturdy grower, and exceedingly productive. Its fruit though not very rich is very fine grained and juicy—in quality best; comes into fruit young, and is so far healthy in foliage and tree. The fruit must be gathered as soon as mature and ripened in the house, like nearly all summer pears.

Dooyenne Boussock.—This, though not a new pear, is not as well known as it should be. It is so far the handsomest and healthiest both in wood and foliage of any variety in my collection. It is of sturdy, though not very rapid growth; gives an abundance of fruit in from eight to ten years as a standard. The fruit is very large and handsome, and of uniform size and quality. Downing says: "Flesh buttery, juicy, melting, sweet, aromatic and excellent; very good. I would amend by saying *vinous* in the place of "sweet" and *best* in the place of "very good." Tree appears to be perfectly hardy; a splendid fruit either for family or market. Like the Clapp, Flemish Beauty, Bartlett and some others, it will ripen up in perfection if taken from the tree when the fruit is two-thirds grown.

Goodale.—A native of Saco, Maine, appears as hardy as a Norway Pine and appears to be in every way desirable. Fruit large, handsome, and of very good quality; tree a strong, sturdy, leafy-twigged grower. Good ale is good, but Goodale is better for the people of the Northwest.

Mt. Vernon.—I have only had this one season. It resembles the Flemish Beauty

very much in wood and leaf. It has all the signs of hardness. Originated near Roxbury, Mass. In it I hope to find our best early winter pear.

Oct.—Though this is not a new pear, it endures extreme cold so well here, it is well worthy of trial further North, as an early pear of most excellent quality. It is a seedling of the Seckel, which it very closely resembles in tree and foliage.

Each year in this part of the world, there is more inquiry for pear trees, and each year as more of the wildness (*humus*) gets out of the soil, they appear to do better.

The one great fault is the style of trees that are planted. Last fall I asked the most successful pear grower in Pennsylvania, what he considered the best form for a pear tree, how long a trunk he wanted? He spoke up quick and sharp, "I do not want a pear tree with any trunk; I want them to branch from the ground up like a Norway Spruce." That is it exactly, dear reader. Nine-tenths of the pear trees planted in the West were utterly spoiled by being pruned up before they were planted. If pear trees should have no bare trunk in woody and hilly Pennsylvania, how is it in the treeless, level, windy West? Think of it, a young pear tree with from three to five feet of naked trunk on our prairies! Why it is as bad as a man with only shirt and bear skin drawers on, crossing the prairie on a cold, January day. Why, if I were to plant another pear orchard I would not take what are called first class two and three year old pear trees, as a gift, and plant them as they come from the nursery with three to five feet of naked trunk.

We nurserymen are *not* to blame! We cannot sell trees of the right kind; if we grow them people won't have them. Now if you want a good tree or a good orchard, the only way to do is to buy good trees one year from bud, or two years from root graft (I greatly prefer the last); plant them out on dry and rather poor soil, cut them back to a foot or eighteen inches; cultivate them thoroughly four to five years, and never touch them with a knife after the first cutting back,

except, if the twigs make a growth of over twenty inches, cut them back to that point.

Grafting Nursery Stock.

THERE seems to be an erroneous impression among farmers and others about to plant out an orchard, that the young trees that are offered by nurserymen are from suckers, and therefore will not come into bearing in a great while. A man said to me, a few days ago, that he was going to graft a Spy apple, but he would not take his scions from a young tree in the nursery, "for it would be so long coming into bearing." He was under wrong impressions, for I am sure that a scion put into a large tree will bring fruit in a very few years, while a young Spy tree is one of the longest coming into bearing of any of the varieties we cultivate. This leads me to what I wish to say:

The process of budding (and that of grafting, too,) is one of the finest ways of producing thrifty, straight and hardy trees. Nurserymen do not allow the suckers to grow on their stock. The scions used for budding are taken out of the tops of the trees in the nursery, and the buds are put into healthy trees of thrifty growth. In this way we produce trees from five to seven feet high at two or three years of age. A great many of the trees bear fruit in the nursery rows. I have picked this week from three year old trees perfectly formed fruit of five varieties of pears, one of cherry, and five of apples, showing that our way of making trees is not inclined to put the bearing off as many years as is supposed by some.—*Cor. Country Gentleman.*

Col. Hollister, late of Ohio, who emigrated to California several years ago, has now 700 acres of almond grove, and 60,000 trees in bearing, 100,000 orange, lemon, and olive trees. He owns 100,000 acres of land and has 150,000 cattle and sheep. He has bought twenty-six bushels of tea seed in Japan this year, and is going to grow the tea plants extensively.

Window Gardening.

An Air-tight Fern Case.

OUR village parson is fond of gardening, and especially of Ferns, of which he has a vaseful worth a moment's attention. This vase or pan is made of thin glass, somewhat over a foot in diameter. It was filled with common sandy loam and moss from one of the surrounding hillsides several years ago. The Ferns were then planted in it, and a glass globe placed over them. This globe has never been removed since that time, and no water or any artificial nourishment of any description has been given them during all those years. The whole is nearly if not quite air tight, so that the dry air of the room has no opportunity of absorbing the moisture which was supplied to them when watered seven years ago. If the pan had been earthenware, moisture would, doubtless, have found its way through it; but, being glass, it is entirely air tight. The soil has subsided about an inch; but, as seen through the glass, it has still a fresh, nourishing look about it. According to the temperature of the room, moisture rises and condenses on the glass, and falls again, revealing the beautiful fronds of *Pteris serrulata*, *Aspleniums*, *Scolopendriums*, and similar Ferns. All these seem in excellent health, notwithstanding their imprisonment, during which old fronds have died and crumbled into dust, new ones have taken their place; and now they are in as fine condition as any Ferns possibly could be under the most skillful attention.—*J. Mein, in The Garden*

Campanula as a Window Plant.

Barrelier's Bell Flower (*Campanula Barrelieri*) is considered by a correspondent of the *Garden* one of the finest of all dwarf-growing Bell flowers for window culture; and, after trying many others, including *C. pulla*, *C. turbinata*, *C. fragilis*, and others, I have

given this the preference. Grown in a pot of rich, sandy earth, it forms a bushy little plant in the spring, while a month or two later its branches elongate, until they hang gracefully over the pot sides, covered with pale, purplish-blue salver-shaped flowers. One of my plants looks splendidly just now, being a perfect mass of flowers. A good potful of this plant makes a capital substitute for a hanging basket; and the flowers show to better advantage when the plant is suspended in the window or on the balcony outside. It is also a capital bracket plant; or it looks well on the window sill, where the shoots can hang down freely. The two best campanulas for the window gardener are, undoubtedly, this and *C. pyramidalis*, which are very distinct from each other in habit of growth, and both perfect in their way.

Culture of Carnations.

SELECT the cuttings you desire to propagate from the parent plant, and cut it through with a sharp knife just below the third pair of leaves from the top of the cutting; this done, cut off half the length of every leaf on the cutting except the two lower ones, which are to be removed altogether. Now you will fill quite a small pot with one-half soil and one-half sand; make it smooth, and insert your cutting in the center from one to one-and-a-half inches in depth. Water well, place a hard glass or tumbler over it, and set it aside. This glass will gather moisture, and should be removed every day and wiped dry, and again replaced. You can, by this means, stake your cuttings in a room of your house with as much ease, and with as much certainty of their living, as within a greenhouse. Cuttings thus prepared may be readily rooted in a window or in a room, from May to October, without failure. I find a very good way to start cuttings to be in a raisin box of sand, filling the same with the cuttings half an inch apart, and keeping them well watered.

Layering is not so certain, and requires more care than the above method, nevertheless

less it is well to know how you are to do it. With a sharp knife you will remove the leaves from the second or third joint of the plant, without separating the same from the parent stock; having done this, carefully cut a slit close under and half through the joint, being very careful not to separate the shoot from the main stem. Have ready your small pot sunk in the ground, in the soil which you cover your layer with. You will now peg the layer down with a small twig hook, and your work is done. Shade these from the sun while rooting; and when rooted sever from the parent plant, and you have an independent plant, thrifty and reliable.—*Ollipod Quill, in Forest and Stream.*

Clematis in Conservatories.—The *London Journal of Horticulture* calls attention to the exquisitely beautiful appearance of Clematis present when grown together on pillars in conservatories and similar positions. As a rule, it is not best to grow more than one plant to a pillar, as both are usually spoiled; but in this case there is positive advantage to have both, each lending a charm to the other, and combining to produce a more effective picture than either separately. After growing a year or two the stem becomes naked at the bottom; just then put a fine, strong-growing mass of geranium, and the furnishing is complete. "What can be more pleasing than a scarlet geranium, with a few carelessly hanging branches of a white clematis intermingled, or a white geranium with a lavender or blue-shaded clematis?"

"Nothing can have a finer effect in the conservatory than masses of clematis; the flowers are soft, but brilliant, of the largest size, and, consequently, conspicuous at a distance. I have had from 100 to 200 expanded blossoms on a plant at once. I have them trained to the rafters, with that best of all climbers for large buildings (*Tacsonia* var. *Volxemi*) rambling from rafter to rafter amongst them; the brilliant crimson flowers of the latter being very effective."

"Although the flowers like plenty of light, they should be shaded from a strong sun."

Names of Plants—English vs. Latin.—My friend asks "What is this pretty flower?" "*Galasine azurea*." "What a long name!" "I cannot shorten it." "But why have a Latin name? Better call it Blue Snail in plain English." "Then you like such names as Shamrock, Blue-bells, Eglantine and Culowkeys?" Certainly, every one can understand them." "You can recognize the plants?" "Easily." "Well, I can show you in point of endless discussions as to what they are. On the other hand, I defy you to produce two persons who disagree as to what is meant by *Eucharis Amazonica*. Paradoxical as it may seem, Latin is, in such matters, more intelligible even to an Englishman than English."—*Cor. Journal of Horticulture*

Table Decorations.—Table decorations are receiving more and more attention in London society. Lord Porterhouse, in an article to one of the papers, speaks of a novelty worthy of notice by our lady readers.

He says he dined one evening at the house of a distinguished gentleman who had recently married a Russian lady. The table was entirely covered with moss—the fern-like moss which is plentiful in Covent Garden. There was the usual white cloth, but the only evidence of it was seen in that portion which hangs at the sides of the table. Flowers were profusely introduced, and the effect was altogether unique. He stated that this was one of the most ordinary kinds of table decoration in the aristocratic house of Russia.

Composition of a Royal Bouquet.—During the recent visit of the king of Denmark and his daughter, the Princess of Wales, to Edinburgh, Messrs. Drummond, florists, presented a splendid bouquet to the Princess, who expressed great admiration at its singular beauty. A fine bloom of *Eucharis Amazonica* forms the center of the bouquet, and, among other rich flowers which composed it, were the rare and beautiful *Lapageria rosea*, *Stephanotis* and the sweet-scented Italian tube-rose. The bouquet was encased in a rich satin holder trimmed with Honiton lace.

New and Rare Plants.

Maranta Makoyana.—A lovely, dwarf-growing stove perennial, belonging to the front rank of plants, with ornamental foliage. The leaf stalks are slender, erect, of a dull, reddish purple, and support an ovate blade, somewhat unequal sided, about 6 inches long, and 4½ inches broad, most charmingly colored. The margin and the oblong marking are of a very dark, bottle-green color, while the whole intervening space is semi-transparent, cream-colored, or of a greenish, straw color, and traversed by the veins, which form narrow, divergent, dark-green lines, between which the pallid surface appears as if minutely striate; when closely examined, however, it is found to be barred transversely with minute, green lines, producing, under a magnifying glass, the appearance of being cancellate, like the *Ouviranda*. This pale center of the leaf, on each side the midrib, is ornamented by oblong, often stipulate blotches, of a deep, full green, and from one to two inches long; the larger and smaller marking frequently alternating. The under surface is a wine red, deeper opposite the darker marking of the upper surface. It may be generally described as a miniature of such plants as *M. Veitchii* and *M. Lindenii*, but is even more beautiful than those fine kinds.—*William Bull.*

Hibiscus (Rosa Sinensis) Punicena.—A very attractive stove plant, of a remarkably dense and close-growing habit, as compared with others of this well-known, showy species. The leaves are shortly and broadly ovate, of a deep green color, with an irregular toothed margin. The flowers are double, remarkably red and compact; they measure about three inches across, and the wavy, petal-like bodies which form the close center are about two inches in depth, and have a very elegantly crisped appearance. The color is a bright, dense crimson, so that the blossoms are very attractive. It is one of the many importations from the South Sea Islands.—*William Bull.*

Lilium Washingtonianum purpureum.—A new lily, a native of Humboldt county, California, and a variety of the *Washingtonianum*, although there is some discrepancy still unsettled. In the "*Journal of the Linnean Society*" it is described by Mr. Baker as smaller and more slender than the type, with a stem from 1–1½ foot high, and the whorled leaves from 1–1½ inch long, as having from 4 to 8 flowers on an umbel; the perianth being of a wine purple, and covered with minute dots. It has a peculiar pyramidal habit of growth, the flower stem pointing from one common center upward at an angle of 45°; the color, on first opening, was nearly white with purple spots, becoming, in age, suffused with a purplish tint, not deep enough to obliterate the spotting.

New Weeping False Acacia (Robinia pseudo Acacia pendula).—The *Revue Horticole* considers this an acquisition. It is of a distinctly weeping character. The vigorous branches, which are often of great length, weep down towards the main trunk after the manner of the *Slyphnolobium pendulum*. The foliage presents no special peculiarity, and resembles that of the typical species or common *Robinia*.

Aralia Granadensis.—This free-growing stove shrub was sent from New Grenada as an *Aralia*, from which genus, however, it appears widely to differ. It is a soft-wooded plant with alternate leaves, which, in young plants of 1½ foot high, are about a foot long, and nearly as much in breadth, of a soft herbaceous texture, peltately attached, and of a pale green color, the under surface being clothed with cobwebby hairs. These leaves are ovate in outline, three-lobed, with ovate-acuminate lobes, and there is a peculiar white patch at the lower side of the base of the terete petioles. The stems are marked by a ring at each node, showing the presence at an earlier stage of a convolute stipule, as seen in *Artocarpads*.—*William Bull, London.*

A good edging plant for a sandy soil in a garden is the *Lithospermum, Prostratum*, Grownwell or Stone weed.



Maranta Makoyana.



Hibiscus (Rosa Sinensis) Punirena.

Editor's Hortfolia.

Curiosities of Rural Journalism.

Almost every new comer in the field of rural literature echoes the stereotyped expression of one idea,—that their mission is “to give *sound and practical instruction*—to *avoid sharp personalities*—to correct the articles of *empirics*, whose suggestions would surely lead to *grievous disappointment*—and to make the history, theory and practice of rural pursuits more *scientifically correct*.”

One other expression, we notice, is quite frequent, somewhat like this: “The *articles of a majority of our writers are, generally, the work of persons whose reading and practice have been too limited to afford the qualifications needful for giving instruction*.”

And straightway some first-class, well-established journal is selected for a first-class criticism. The editor finds, much to his regret, after a free tilt, that the selection of such for unnecessary criticism is bad policy, and brings down the enmity of others from general sympathy with the attacked party. We have a good laugh, occasionally, when these new fledglings get caught themselves. So the following instance is worth relating. A new Brooklyn journal, in its first number, criticises *The Country Gentleman* for publishing a pretty story, which it says, unfortunately, is not true. In the same number it publishes a nice disquisition on the Jerusalem Artichoke, saying that it came originally from Canada. Whereupon, the *New York Nation* retorts, that the *Jerusalem Artichoke* did not come from Canada, but *Louisiana*; and the Brooklyn editor, upon investigation, really cannot tell, to a certainty, where it did come from. Now we do not speak of this, except to mention it as a curiosity of “*sharp eyes watching to trip new critics*.”

After a year or two spent in time, talent and money, to get a new journal well started, the editor gets lonesome, and finds, after all, it is not best to pitch into the older journals, and it is decidedly more advantageous to be on good terms with them. Tilton's *Journal*

of *Horticulture* was doomed from the first to unpopularity and failure, because of its ungallant attack upon others of same profession.

With regard to writers of *experience*, we think it worth mention that the most successful agricultural editor of the present day, one highly esteemed by men thrice his age, is a young man, never brought up on a farm, did not live in the country for but few years, resided entirely in the city while engaged in literary work, and never made a speech in his life. It is a complete disproof of the old idea, that “*it takes a successful farmer to make a successful agricultural editor*.” He had great power of observation, easily learned what farmers liked, sought for information which would suit them; got ideas from every source, correspondence and selections, condensed them, and made a model paper; and yet not once living or visiting a farm. He is still agricultural editor of one of the “*leading journals of the United States*.”

We maintain that a *successful farmer* never can be a *successful editor*. He *knows too much*, and is not ready to believe or credit what others know; hence, he never will make a good news distributor; he judges everything by his own opinions, and usually wants to tell only what he knows himself. Almost all successful farmers have hobbies and prejudices, and these are gratified; hence, he looks upon experiments of other people as not likely to bring out any more good than his own. A successful editor's idea of a model journal is to *tell what others know*. A successful farmer's idea of a model journal is to *tell what he knows*. And yet, the editor, *bred to his position*, and the farmer who has gained his knowledge by years of hard work, experiment and application, cannot change places with each other and do as well. Each has his place. Therefore it is unwise, we say, for any one to keep ringing a tone of scorn, prejudice or criticism about editors of inexperience. Each has his peculiar ability, and the world has its proper room for him. The measure of a man is not so much *what he knows* (but keeps to himself), as *what he does, and how well he benefits others*.

The main questions considered in taking a journal are, 1. Does the subscriber get his *money's worth*? 2. Does it give good information? Beyond these points the public have no business to demand inquiry. Yet almost every one seems to make it his duty to search till he can find a fault. In judging of editors of rural journals, the mass of subscribers will always go for the side of the one who interests them most; and the most interesting editors are those who study the people closest; not those who *know the most*, and then tell it only in a doleful, dreary way. A youthful editor can often polish to brightness the obscurely expressed facts and ideas of the more erudite scholar.

It is not wise for any one to brag of great knowledge, especially new comers; nor "established authorities" frown down others of less knowledge, who are doing good work according to their means.

But we have made a sermon of what was intended only as a hint at the ways of rural editors, *who seem to be especially fond of criticism*.

Copy-right and Copy-irong.

The *Villa Gardener*, of London, England, and *The Gardener's Magazine* have both made response to our criticism in June HORTICULTURIST. The burden of their reply is *tu quo-que* (you also). To which we respond, that we never quoted direct from *Villa Gardener*, because we never discovered anything original to quote. Nor from *The Gardener's Magazine*, because we never see it nor exchange with it. Its editor once exchanged, but never gave reason for discontinuing, while our journal has been continued regularly.

The true meaning of their reply is directed toward our book, "*Window Gardening*," in which five pages, written by Shirley Hibberd, are quoted, and special credit given *three times*. The illustrations referred to were purchased of Shirley Hibberd, publisher, and duly paid for, for use in this country. After paying a man for use of his material, and then extra credit besides, is it not time for him to shut up? Criticism from such an one comes with very ill grace. *The Gardener's Maga-*

zine welcomes "*Burbridge's Domestic Floriculture*" warmly; yet it overlooks the fact, that this book is nearly half made up of selections from *The Garden*.

We mention this not to criticise the book, for it is a good one; but to show that the opinions of critics are not always to be trusted, especially when they have prejudices.

Fuchsia in Ireland.

An English paper speaks of the astounding luxuriance of the old red fuchsia in Ireland, near Carlingford Bay.

It assumes the proportions of trees, mounts above the eaves and chimneys, and shades the windows with big clustering sprays of tiny, dark-green leaves, and deep scarlet, waxen bells. Many of these shrubs must be of patriarchal age, for their trunks are gnarled, and tough as oak; but the older they are, the more determined is their perseverance in showering around an exhaustless wealth of hardy grace and color. In one or two instances the dwellings were completely hidden, and turned into bowers, by this quaintly beautiful plant or tree.

A New Editorial Associate.

We have the pleasure of announcing that Mr. Andrew S. Fuller, the well-known author and horticulturist, will hereafter be identified with THE HORTICULTURIST as one of its regular associate editors and contributors. The December No. will contain his first article, and thereafter he will write regularly for one or more of its departments. The editor-in-chief believes that with its present force of able associate editors, names of the highest rank and ability, representative men in the field of *American gardening*, THE HORTICULTURIST is fully entitled to a better claim upon the American public than ever before. We shall continue to add other practical talent to assist us in its management, until no one can claim to be its superior in merit. Mr. Hoopes and Mr. Taplin will still continue their articles and editorials, and the addition of spicy gossip from Mr. Fuller's pen, will make THE HORTICULTURIST a splendid feast for our readers the coming year.

The display of apples was very large; the best collection being that of A. Bridgeman—167 varieties (original collection of Charles Downing). The following awards were made:

1st premium for fruit—Henry Cornell.
 “ “ “ pears—J. H. Ricketts.
 “ “ “ grapes—J. H. Ricketts.
 “ “ “ apples—A. Bridgeman.

The tables were graced with an excellent display of Dahlias, Asters, Gladiolus, by James Vick. Floral designs from Burrows & Wood, W. D. Humphries; and 12 Palms from Henry W. Sargent. Among the novelties specially noticeable was a new grape seedling, from the Delaware, by Dr. A. M. Culbert; fruit was twice the size of usual bunches of the Delaware, very compact; fruit firm, and flavor not quite as sweet; a fine sort. Mr. T. S. Force was active in several good displays of apples, and specimen plants of Palms, Dracaenas, and Latania. He is quite a successful amateur. Mr. David Smith, the treasurer of the society, does more than all others to quicken life, and keep the horticultural spirit alive and strong. The largest collections of fruit were those of J. H. Ricketts, who brought 69 varieties of grapes, and 115 of pears. Alfred Bridgeman, 100 varieties of pears, 172 of apples, and 21 of grapes.

Shakespeare's Knowledge of Horticulture.

A recent writer has asked the question: *What did Shakespeare know of gardening?* and thereupon sat down to examine his works for the evidences, which he found to be as follows: Of English wild flowers, he mentions about fifteen, alluding to some only once or twice, to others a dozen times. Of exotic flowers, or such as were cultivated in the scanty gardens of his period, more than 300 years ago, he mentions nine or ten; of trees and shrubs, exotics included, there are notices of about twenty-five. Of fruits, about thirty. Vegetables, about equal proportion. Products of the nature of spices and medicines are mentioned to the extent of about a score. The total is thus about 150, or more—considerably more than double that of the total to be found in Milton. Not even Virgil in his Georgics or Æneid has made mention of as many. It

must be remembered that in the days of Shakespeare, there were no “floras” to consult; botany had not yet become a study, and wild flowers few, or no discriminating observers—and all his observations were from nature, and expressed in the popular language.

Complimentary. American Pomological Society.

The *London Gardener* acknowledges the receipt of last volume of the proceedings of the American Pomological Society, with this high compliment: “It is by far the most useful and well-stored thing of the kind we have ever seen. It is in every way worthy of the country which is destined to become the greatest fruit growing region of the earth, and contains a mass of matter of great practical value to American fruit growers, and in a lesser degree to ourselves. The paper and printing are of a character superior to what we usually meet with in the best works published in this country.”

A Horticultural Pun.

Sir George Rose being introduced one day to two charming young ladies, whose names were *Mary* and *Louise*, he instantly added, with a bow, “Ah, yes! *Marie Louise*, the sweetest pear I know;” a compliment almost worthy of being coupled with that most beautiful one of Sydney Smith, suggested by the Sweet Pea. A young lady walking with him in the garden, paused to examine a favorite flower, on which she had taken great pains. “I am afraid, Mr. Smith,” she said, “that this pea will never come to perfection.” “Then allow me,” taking her politely by the hand, “to lead perfection to the pea.”

Floral Prizes.

Amid the great interest in preparing floral decorations with cultivated flowers, it is certainly an item of curiosity to learn that the first prize at the annual exhibition of the Tunbridge Wells Horticultural Society, was awarded to a lady, for her skillful decoration of *wild flowers*. The variety was a large one, and each tazza and trumpet were filled with Dog Roses, blue Forget-me-Nots, brown tinted sprays of Oak leaves and British Ferns, in each tier the flowers and foliage were most charmingly intermixed.

The first prize among gardeners was given to Mr. R. Downing, for the following pretty arrangement: Out of a tazza rose a glass stem, supporting on the top of the trumpet. Half way up this stem projected three tiny curved branches. In the tazza were blooms of deep crimson Roses, Stephanotis, blue shaded Statice, &c., set off by Ferns and other foliage. The small curved branches contained blossoms of Stephanotis and Statice, intermixed with fronds of *Adiantum cuneatum*. In the trumpet was an elegant plume of Ferns, Grasses, and flowers, similar to those employed in other portions of the stand; while drooping down from the mouth of the trumpet were long sprays of *Selaginella*, which gave a certain amount of grace to the whole arrangement.

Button Hole Bouquets.

These, which are exceedingly fashionable in London, are sold freely in shop windows, and also in Covent Garden market. One of the most popular designs is made of white Hyacinth flowers, and a blossom or two of *Scilla Sibirica*, a white Hyacinth, and a pip or two of *Euphorbia Jacquinæflora*, backed in both cases either by a fresh Rose leaf, or Maiden Hair Fern. Rose buds, with their own foliage, are always elegant, and can hardly be excelled.

Curious Habits of Plants.

Some Orchids, whether wild ones, such as Ladies' Tresses, or those various and more gorgeous ones, mostly air plants of tropical regions, which adorn rich conservatories, curiously resemble butterflies, either a swarm of them, as some of the smaller ones in a cluster on a long, light stalk, fluttering with every breath of air; some are like a large, single, gorgeous, orange and spotted butterfly; another takes its name from the resemblance of its flowers to a moth. Can the likeness be a sort of decoy to allure the very kinds of insects that are wanted for fertilizing these flowers? * * When a fresh and active tendril in climbing comes in contact with a neighboring stalk, or any similar support, it hooks or coils its end round it, then having secured a hold, it shortens by coiling up its whole length, or a

good part of it. This commonly draws up the climbing stem, nearer to its support, and makes it easier for the younger tendrils above to gain their hold. A tendril which has taken hold and coiled up, usually becomes stouter, rigid, and much stronger than it was before. One which would break with an ounce weight, becomes capable of supporting two or three pounds.—*Prof. Gray.*

Novelties in Flowers.

Two novelties among flowers have been discovered, so rare and wonderful that we are almost tempted to treat them as of fables until their verity is established by our own vision. One is a *black* lily in Santa Clara, California, with three large blossoms, each nine inches long, and perfectly black outside of the green petals. The other is to be seen at Constantinople, and described by an eye-witness as belonging to the *narcissus* genus of bulbs. The flower represents a perfect humming-bird. The breast, of bright emerald green, is a complete copy of this bird, and the throat, head, beak and eyes are a perfect imitation. The hinder part of the body, and the two outstretched wings, are of a bright rose color, one might almost say flesh colored. These wondrous bulbs should have been sent to the Vienna exhibition. They will be in abundance by the time of our Centennial Celebration in 1876. And yet they can hardly be greater curiosities than the strange and mysterious "*Sancta Spiritu*" flower from South America, with its life-like representation of doves.

The New Conservatory,

In Central Park, New York, is to be 230 feet long and 50 feet wide; a grand Fifth Avenue entrance on Seventy-fourth street. The upper story is to be devoted to botanical plants and flowers, and the domes surmounting each end, one to ferns and the other to camellias.

Pears in the Garden of Plants.

The collection of pears in the Jardin des Plantes, at Paris, was begun 1792. In 1793 there were 186 varieties of all kinds of fruits. In 1824, when Thouin died, there were 265 varieties of pears alone; now there are more than 1,400 varieties.

Popular Science.

Darwin vs. Darwin.—A Darwin philosopher was brought before a justice on a charge of drunkenness. In defence, he said, "Your worship, I am a Darwinian, and I have, I think, discovered the origin of my unfortunate tendency. One of my remotest grandfathers was an anthropoid of a curious turn of mind. One morning, about 4,391,633 B.C., he was looking over his store of cocoanuts, when he picked up one for his breakfast, in which the milk had fermented. He drank the liquor and got gloriously drunk, and ever after he always kept his cocoanuts until fermentation took place. Judge, then, whether a tendency handed down through innumerable ancestors should not be taken in my defence." Casting a sarcastic look at the prisoner, the justice said, "I am sorry that the peculiar arrangement of the atoms of stardust resulted in giving me a disposition to sentence you to pay a fine of five shillings and costs."

Gas Pipes Fatal to Trees.—Cuttings of Willow, the lower ends of which were placed in flasks containing a little water and filled with coal gas, developed only short roots, and the buds on the upper parts died shortly after unfolding in the air. Of ten plants in pots (varieties of Fuchsia and Salvia), among the roots of which coal gas was conducted through openings in the bottom of the pots, seven died in four months. To show that the plants were killed, not by the direct action of the gas, but in consequence of the poisoning of the soil, several experiments were made with earth, through which coal gas had passed for two or three hours daily for two-and-a-half years. The rootlets of seed sown in this soil remained very short and soon rotted. A plant of *Dracæna* was repotted in the soil; in ten days the leaves dried up and the roots died. These results sufficiently account for the fact, that the trees planted near gas pipes in streets so often die; the closing of gas pipes in wider tubes, having openings to the

air, and through which currents could be maintained by artificial means, has therefore been recommended as a remedy. Such a plan is still to be more recommended on hygienic grounds, since it has been shown that infiltration of coal gas through the soil, takes place even into houses not supplied with gas.—*Scientific American*.

Guarana, a special vegetable remedy.—The value of *Guarana*, as a vegetable remedy for nervous headache, is thus vouched for by a correspondent of *The Cultivator*. "Guarana, made from the bruised and roasted seed of the *Paullinia sorbilis*, growing in Brazil, contains an alkaloid allied in character to that found in tea and coffee, and which comes nearer to a specific for sick headache and any other ill effect from our exertions, than any remedy I have ever found for any disease, in a practice of over forty years. Taken at the first warning of an attack, it will ward it off in nine cases out of ten, and do more than any medicine I have ever known to prevent its return."

Coal Loss by Exposure.—That coal loses considerably in value by exposure to the weather has long been known by practical men, but few probably would suppose that the heating power of bituminous coal is sometimes diminished forty-seven per cent. from that cause, ten per cent. being the loss in the same coal under cover; anthracite suffers less from the exposure, but enough to render it economical under most circumstances to keep it sheltered.

Health from Flowers.—It is reported that an Italian professor has discovered that perfumes from flowers have a chemical effect on the atmosphere, converting its oxygen into ozone, and thus increasing its health-imparting power. As the result of his researches he states that essences of cherry, laurel, lavender, mint, juniper, melons, fennel, and bergamot are among those which develop the largest quantities of ozone, while anise and thyme develop it in a less degree. Flowers destitute of perfume have no such effect. He recommends that dwellers in marshy localities and near places infected with animal emana-

tions should surround their homes with a profusion of the most odoriferous flowers.

A Carniverous Plant.—A remarkable plant was exhibited to the British Association for the Advancement of Science, by Dr. Hooker, who gave the inaugural address as president of the biology section. The address was upon the subject of carnivorous plants, and Dr. Hooker explained and demonstrated by experiment some extraordinary discoveries of Mr. Darwin's. Among other things, says a Liverpool paper, he showed a plant called "Dionial," the leaves of which were open. A fly was captured and put upon a leaf, which instantly closed, and on reopening it was found that the fly was completely dissolved. A bit of beef was afterward consumed in the same way. The leaf was then fed with cheese, which disagreed with it horribly, and eventually killed it. Dr. Hooker explained that the plant's action was precisely similar to that of the human stomach. The leaf rejected a piece of wet chalk. Professor Huxley, in moving a vote of thanks, said these phenomena formed a wonderful problem. The plant had certainly a nervous system of its own.

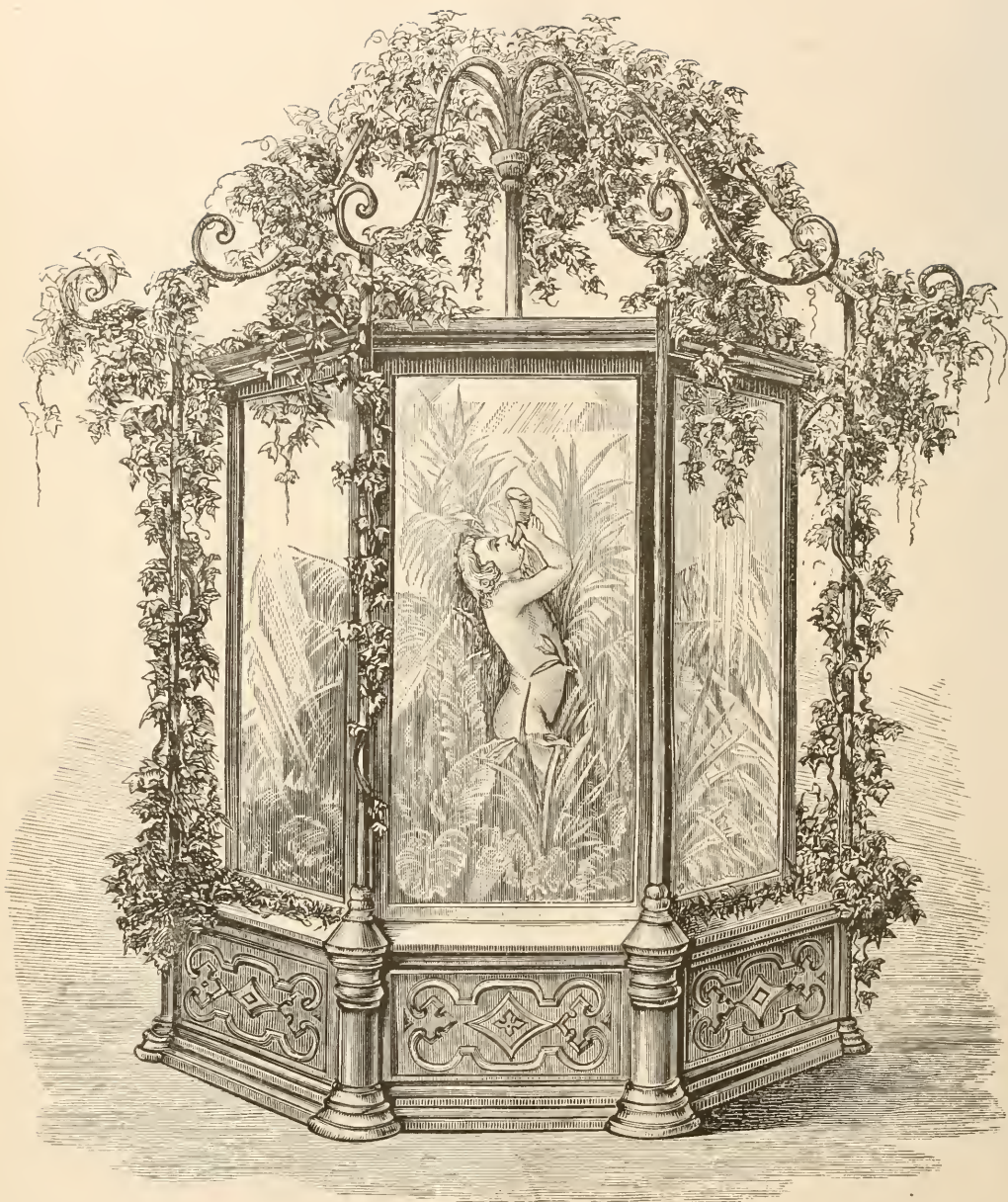
Curious Trees.—Just beyond the Darbonne or Caleasieu river, in the parish of Caleasieu, is a white oak tree, about two-and-a-half feet in diameter. There are no branches for twenty-five or thirty feet up. About twelve or fifteen feet up, a pine limb or top part of a pine tree, six or eight inches in diameter, and twelve or sixteen feet long, runs at right angles through the center of the tree, sticking out about the same distance on either side. It tapers a little to one end, where there are two or three knots, giving it the appearance of a tree top. The oak, where it passes through, is grown closely around it. The pine is rich in turpentine and will not decay. There is no fork or hollow in the oak; but it has the appearance as if a hole had been made and the pine struck through, after which the oak closed on it by growth. The question is, how did the pine get through the oak, or the oak round the pine?

In Mallet woods there is another white oak, of considerable size, that divides into two prongs about one-and-a-half feet from the ground, which after running up like a pair of bowlegs, about fifteen feet, unite in one round compact stem. The prongs are about one-and-a-half feet in diameter; and where they unite above, the tree is larger than either of them, but smaller than both together. A man can walk between the two prongs, and the tree stands on a land boundary line. Forked trees are very common; but the question here is, how did the two prongs unite so perfectly into one stem above?

Victorian Wine.—Another successful experiment, says *The Melbourn Argus*, with Victorian wine has been reported. Some white Metario wine of the vintage of 1868 was placed on board the ship *Superb* by Mr. Leplastrier when she was last here, and made the voyage to England and back. It was tried recently, and was pronounced excellent. It is a first-class wine, fullbodied, and of delicious flavor, and it shows the degree of excellence to which Victorian wines may attain when well handled and properly cared for. It is Mr. Leplastrier's intention to send a rather large quantity of colonial wine home by the *Superb* on her present trip, and have it brought back again, in order more fully to determine what Victorian wines are really capable of.

The Ascent of Sap in Plants.—Prof. McNab has presented to the Royal Irish Academy a memoir on the ascent of water in the stems of plants, to investigate which point very many experiments were made. He finds in the privet the rate of ascent to be about 6 inches per hour, in the elm 16.6 inches per hour; in the cherry laurel the rate varied from 24 to 13 inches. Experiments were also made as to the influence of sunlight and darkness, the influence of the bark, the influence of the leaves, and the influence of pressure.

The Duke of Buccleugh grape is a new variety, which is considered one of the best and earliest under glass. It is reported as very robust.



A PARLOR FLOWER CASE.



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Horticultural Societies.

A London Horticultural Show.

BY JOSIAH HOOPES.

IN no one department of gardening can we form a better idea of the progress of the times than by attending an exhibition, such as the following paper attempts to describe. And these fairs are the mediums by which new plants become disseminated almost all over the world; for if a fortunate individual becomes possessed of an honorable certificate for his novelty, there seems to be very little in the way of its speedy introduction. But we in America have not been educated up to the mark which admits nothing but the highest grades upon our exhibition tables; and yet, in a few of our leading societies, there is a marked improvement in this respect,—the members evidently cherishing a desire to cull out the great amount of poorly-grown plants and fruits, and substitute a few perfectly-grown specimens, which, beyond a doubt,

reflect credit upon their owners. With these few preliminary remarks, I will now pass to the impressions made upon my mind during a first visit to a transatlantic horticultural show.

The South Kensington Gardens, where the exhibitions of the Royal Horticultural Society are held, are a show of themselves; and the excellent examples of carpet or tapestry gardening is of the finest character. The conservatory contains many handsome Palms, Ferns, Conifers, and other decorative plants; and in this spacious, glass building, surrounded by tropical vegetation, is where the Prince of Wales occasionally gives a grand entertainment.

As we step inside the visitors' entrance, we notice a perpetual exhibition of florists' wares,—glass vases for the decoration of tables, rustic work of every description, fancy flower pots, bouquets and designs in dried flowers and grasses, and, indeed, innumerable articles to tempt the eye, as well as exhaust the pockets, of all enthusiastic gardeners like myself.

This main hall opens into a large room, where are arranged many articles, mostly of a "novelty" character, to which the attention of the various committees are especially re-

quested. Here was the most extensive collection of Lettuce I had ever beheld, consisting of forty-five varieties; two pots of each. Prominently was the noted *Hanson*, of Philadelphia origin, and, to my eye, one of the most enticing sorts on the table; but the committee thought differently, and declared it to be an old variety under a new name—what, however, they did not say. The *Perpignon* is one of the newer kinds, and is valuable on account of not running to seed quickly; quite a desideratum in an American climate. *Lactuca angustina* is said to be a distinct species, recommended only for cutting whilst in a young state. *Tom Thumb* is well named, as it is a little, round-headed, compact Cabbage Lettuce, and just such a variety as we need in this country; as is, also, the *Victoria*, which, perhaps, made the finest show of all; being remarkably solid and regular in outline, as well as very large. The Cos Lettuces, a class that we are obliged to dispense with on this side of the Atlantic, but which are the perfection of crispness and delicate flavor, were finely represented here. A curious form with dark-red leaves, not unlike the Red Cabbage, used for pickling purposes, was labeled *Blood Red*. *Earliest White Stone-head* made a fine show, and, perhaps, was as valuable as any, where these kinds succeed. The committee awarded the depositors, Messrs. Jas. Carter, Dunnett, and Beale, a bronze medal for this collection. The same firm had on exhibition a novel, yet beautiful display of pressed plants, showing the vine, foliage, pods and fruit of all the leading varieties of Peas. Quite a number of melons, grown under glass, were shown in this room; and, through the kindness of those in charge, I had the privilege of testing several; and, although they were all fine, I was better impressed with the quality of the *Reed's Scarlet-fleshed* than with any of the others. A new (?) variety of *Coleus*, shown here for the first time, attracted quite a crowd; but, to the eyes of an American florist, it was nothing but the *Chameleon*, a well-known variety here, although labeled *Duchess of Edinburgh*.

It was too late for Lilies; and the display

of cut blooms was poor. Leaving this ante-room, we pass along an extensive, narrow gallery, and emerge into a long room, or, rather, corridor, abundantly lighted on one side; whilst on the other extends the one broad table for the display of plants and flowers. The excellency of this arrangement cannot be disputed; for the visitors, standing with their backs to this strong light, see only the effect on the articles exhibited—consequently, showing them to the very best advantage.

The first group of plants on entering is a superb collection of rare Conifers in large tubs, shown by Messrs. Veitch & Son, the celebrated growers of Japanese novelties in this line. The specimen of *Retinospora obtusa aurea*, fully eight feet high, was really grand, reminding one of golden ostrich plumes. Another especially attractive variety was the *R. filifera*, with its rich, green, threadlike shoots drooping gracefully down—such as I believe never drooped a Conifer before; and then a fine plant of *Abies polita*, the handsome Japanese Spruce. *Thujaopsii dolabrata*, five feet high; its curious foliage, with silvery white lines beneath, was more handsome than I had expected to have found it; and, lastly, the rarest of all, the *Umbrella Pine* (*Sciadopitys verticillata*), at least five feet in height, forming a perfect cone, and quite as attractive as it was rare. This firm showed roses, such as we in America can scarcely hope to equal, much less to excel, in our dry climate. The queen of this collection was, undoubtedly, the *Souvenir d'Elise*, of enormous size, and pale blush in color—a tea that everybody should possess; but we must praise the blooms of the well-known *Marechal Niel*, for they were actually the size of saucers, with the richest tint of golden-yellow.

Paul & Sons showed their new seedling, the *S. Reynolds Hole*, with deep crimson velvety petals; a rose that must be popular.

We may readily learn a lesson from the manner of showing cut blooms of *Carnations*, as practiced here. Each individual flower is placed upon a circular piece of white paper, thus bringing out its charms in perfection; and the display of these flowers was perfection,

too. *Verbenas* were shown in little pyramids of each variety, which, although beautiful, did not give a fair idea of the size of the trusses; a quality that should be held indispensable. And now we arrive at the *Geraniums*; a family of no mean importance abroad, as well as in our own grounds. There were larger collections in the exhibition of this than of any other one genus, showing that fashion reaches over a broad extent of territory.

Dr. Denny, whose name has been associated with so many of the finer new varieties of late years, made an excellent display in pots. I noticed, as very striking, the following: *Corsair*, with an immense truss; flower of fine form, and wonderfully brilliant. * *Col. Wright* also has an immense truss, and makes a fine bedder in England. *Gen. Outram* is a very intense, deep crimson-scarlet, with a large truss. *Thos. Speed* was one mass of scarlet flowers, although with rather an open truss. *Matilda*, among pinks, was especially fine. *M. Rendatler*, one of the finest of the pink varieties, was a very well-grown plant, five feet in diameter. *Virgo Maria*, pure white, was full of bloom; and *John Williams*, a handsome shade of peach, completely hid its foliage with bloom. Some of the above specimens, enormous as it may appear, were fully four feet in diameter, and almost covered with bloom. The bronze and tricolor *Geraniums* were here in great perfection; and my regret was, that they would not succeed so well with us. Indeed, the leaves were so brilliant in color, and in many instances so wonderfully shaded, as to rival some of our gorgeous tropical flowers.

Geo. Jackman & Son, whose name has been connected with the *Clematis* family for many years, showed six of their very choicest seedlings in large tubs. These were handsomely grown and trained on wire trellises, shaped like a globe; and as they were a mass of flowers, one may easily judge of the effect they produced. The *Fuchsias* were the most perfect examples of trained specimens that I had ever beheld. Imagine plants from six to eight feet high, regular cones, and completely

covered with flowers in every part. The best five specimens consisted of the following varieties: *Arabella*, *Puritana*, *Perfection*, *Rose of Castille*, and *Queen Victoria*. I have not the space to describe all the fine greenhouse plants in this grand exhibition, especially the *Orchids*; but as they were generally confined to the newer introductions they, of course, attracted considerable attention. Passing out of this corridor into another, we came to the fruits, fewer in numbers than with us at home, at our finest shows, but each plate fully up to the highest standard of excellence. In fact, nothing else was admitted.

With the exception, perhaps, of the *Strawberries* and *Cherries*, all of these were grown under glass. In glancing down the full length of the tables, and seeing huge *Pine Apples* in abundance, *Figs*, foreign *Grapes*, and *Persian Melons*, one might readily imagine himself in a tropical country. Here I was once more favored with a sight of the old *Green Gage*, now rapidly passing into oblivion with us; its rather indifferent-looking skin giving evidence of the luscious, honeyed flavor concealed beneath. Among *Strawberries*, which, by the way, were shown on green moss, was an enormous fruit called *Souvenir de Reiff*. *Sir Chas. Napier*, a curious cockscomb, was also exceedingly well grown; and *Dr. Hogg*, although pale in color, is said to be of first quality.

I never saw finer *Nectarines*, however, than were on these tables; they looked like specimens of *Crawford Peaches*, with smooth skins.

In thus recounting the result of my observations at this great show, doubtless some of my readers may charge me with "snobbishness;" but I can assure such, that I have no intention of awarding praise unmerited, simply from a prejudice that everything foreign is superior to our own. Such is, in fact, very far from being the case. We grow, or can do, very many things superior to our co-laborers across the water; but do we take as much pains in admitting nothing beneath a certain standard of excellence upon the tables at our exhibitions? Here is the great secret. We do not. Hence, our shows are inferior.

The Greenhouse.

Greenhouse for December.

OUR readers, with a comfortable greenhouse, will enjoy it most at this season, when the outside flowers, and also the bright-colored autumn leaves have disappeared for the year which is now nearly closed. Now is a good time to compare notes, and decide what novelties to add to the collection of plants. We frequently meet with some good, old-fashioned plant in out-of-the-way places, which only require to be better known to be generally cultivated. It must be also remembered that all the European novelties are not of equal merit; and many plants which are fine there, are of little value here; while many plants, only fit for greenhouse cultivation in England, are much finer outside in this country in the summer.

At this season there is usually more leisure time than at any other; for the outside jobs will be few, and limited to fine weather, so that every attention must be paid to cleansing plants and pots. Have all dirty pots and pans washed and stowed away in readiness for potting at the busy season. Have broken pots and charcoal in readiness for draining pots, some sphagnum moss under cover for mixing with orchid and antherium soil, etc. Moss cannot be collected when the swamps are frozen. If a full supply of soil is not housed, do it at once, or it will be in poor condition when required for use. If there is time to spare, some plain wire-baskets can be made ready for filling with various plants at the proper season; but many baskets can be purchased cheaper than made at home.

Camellias will now be coming in flower. See that there is no dust or water dropped on the flower when the plants are watered, or the flowers will decay in a short time. Be careful the plants do not get dry, or the buds will drop without opening. If press of work has prevented washing the foliage it must not be delayed, for it is difficult to do it thoroughly without pressing the flowers when on

the point of opening. If it is desirable to have a number of cut flowers for any special time, these will keep longer if gathered and placed in a cool cellar, free from frost, than if remaining on the plants.

Azaleas.—The early varieties which have been kept warm will be coming into flower, and may be placed in a cooler part of the house; but not in a draught. The flowers will last longer when cut, and also on the plants. The old variety, called *Amœna*, is a very nice little compact sort for early blooming. We have it in flower by the middle of October in a warm house. Give all the plants at rest a thorough washing with soap, sulphur and tobacco water, as previously recommended, if not already done, and place a few more plants in heat to succeed those coming into flower. Give the plants a good soaking of water when required, and keep the plants required to bloom at Easter as cool as possible.

Forcing Plants.—Place a few more roses into a warm house; some plants of *Asters*, *Japonicas*, and *Spiræa palmata*. Some *Lilies* of the Valley should be placed in a warm place under the stage. Bright light is not necessary for the plant when started, but it requires abundance of water. A few plants of *Deutzia gracilis* are also useful for early white flowers. A few *Rhododendrons* and *Kalmias*, if well furnished with flower buds, are very gay in the early part of the year, and prevent cutting more valuable plants.

Violets must be protected from frost; and, for flowering at their season, it is necessary to have a few plants in a warm house. These plants dislike much fire heat; especially if a dry heat, they soon get covered with red spiders, and become exhausted, so that the main stock should be wintered in frames protected from frost, with a few plants in the greenhouse to gather from in very cold, stormy weather, when it is not convenient to open frames. The *Marie Louise* variety has flowered freely with us out of doors this season from the middle of September, and is covered with flowers at the end of October; but the first sharp frost will take all the per-

fume out of the flower, and, probably, pinch the foliage. The Czar and King varieties are much hardier than the above sort, and will usually flower well after remaining out all the winter. As soon as frost is gone, for this reason, it would be desirable to plant these extensively in public parks and cemeteries.

Cinerarias and Calceolarias must be kept cool, and not allowed to become dry, or the plants will soon be covered with insects. The plants will also become weak and spindling. A gentle fumigating with tobacco each week should be given as a preventive.

Pelargoniums will be now growing freely, and will require shifting into the pots in which they are intended to flower. A good loam, with about one-third decayed manure, is a good mixture for these plants. These plants require abundance of air at every favorable time, or they become lankey and unsightly; and if not allowed plenty of room, loose the bottom leaves and are only fit to stand among other tall plants, instead of being dwarf and well-furnished specimens, fit to stand alone on their merits. We mention this from seeing so many poorly-grown plants of this class in this country. We are aware one cause of the plants being tall and badly furnished at the bottom is caused by the strong fire heat required during the winter months to keep out the severe frosts, combined with a strong sun heat, with frequently such cutting winds that the house cannot be opened sufficient without the plants being frozen; but by turning off the heat early in the morning, and not turning it on until absolutely necessary, and then only enough to keep the house at 40°, the mischief may be prevented to a great extent. But where a number of plants are obliged to be kept in same house, many of them requiring a higher temperature, the only way is to keep the *Pelargoniums* at the coolest part of the house. The fancy varieties will grow in more heat than the tall-growing varieties, and not suffer. In fact, cuttings of these, rooted in January and grown in a warm house, will make very handsome bushes in six and seven-

inch pots, to flower in May. A few short stakes placed round the plants, and the shoots tied well down, will cause them to throw a number of shoots from the center of plant, and they will make fine dwarf bushes.

Scarlet and Zonale Geraniums must be looked over occasionally, and dead leaves removed. Any varieties of which the stock is short can be propagated at this time if more are required. It is best to grow a few good kinds, which grow and flower well, in preference to a large number, many of which are sure to prove unsatisfactory. With the new sorts, this can only be proved by a trial; but the best florists now plant out a number of plants each year, including all the best novelties, so that buyers can see each variety growing, and judge for themselves. Of course, the first year there is nothing but the raiser's recommendation. An allowance must be made for each raiser thinking their own darling the most perfect.

Bulbs.—The earliest will be now coming in flower. Give an occasional dose of weak manure water; it increases the size of the flowers, and also the color. Place a few more in heat to succeed the early bloomers. Remove them from the plunging material before the tops become drawn up. This is especially necessary with *Narcissus* and *Jonquils*, which commence to grow very early. These plants will keep well in any place just protected from frost. Bulbs are very useful for window and room plants.

Cyclamens will now be growing freely, and commencing to flower. Mark and select those plants with the most handsome foliage and the freest blooms—there being much difference in this respect—for, although all are worth growing, some are quite worth growing for their beautiful marbled foliage, and others are freer in regard to flower, and more desirable in color. They also vary much in perfume; some being nearly scentless. We may add, that some strains of *Cyclamens* in this country are superior to the best average kinds grown in Europe. This we have tested by growing selections from each. The plants will now require more water; but be careful

not to water over the crowns of large bulbs, or get the soil sodden, or the bulbs will decay. A temperature of about 50° is best for these plants.

Chrysanthemums.—Select and mark the best and most desirable sorts when in flower. There are so many fine sorts that it is useless to grow a quantity of the poor dingy varieties. One or two dozen varieties, if well selected, will give more satisfaction than a larger number.

Succulents, such as Agaves, Echeverias and Cacti, will not require frequent watering, or the roots will perish. Yuccas, although requiring more water than the above, will not want it often, the variegated sorts being a better color when kept moderately dry. Remove any decayed leaves at once, or they will decay others.

Palms, growing in cool houses, must not be saturated with water, or the roots will perish; but these plants must never get very dry, or the ends of the leaves die. This is the principal cause of the many unsightly plants of this splendid tribe of plants; and it must be remembered that many species are natives of very hot and moist districts of the tropics; so that it would be useless to attempt to grow these in anything but a tropical temperature; but there are many species which will grow and flourish well in an ordinary greenhouse, and also in the open air during the summer. The taste for these plants is fast growing in this country. This is not to be surprised at, from the grace and beauty of the plants when well cultivated. Until recently, only those traveling in Europe have the opportunity to see well-grown Palms; but now they can be seen in this country as well grown, and with the same varieties as large as in Europe, although at present there is no large house here in which to show them to full advantage. Something of the sort is proposed at Philadelphia. We hope it will be carried out.

Orchids.—Several of the winter-flowering varieties will now be in full beauty. Zygopetalon erinitum being now fine, and, on bright, sunny days, will perfume a large

house. These plants are growing all the year, and will do well in a house not much below 50° at night; but in a cool house will not require frequent watering.

Laelia anceps will also be in full beauty. This is a splendid species—will grow well in a cool house, and last from six weeks to two months in flower.

Lyperpedium insigne will also be in flower. This will last for two months or more in flower in a sitting-room, and for weeks after cutting, placed in water. This is one of the best plants for a novice in orchid growing.

Laelia autumnalis, albida, and acuminata will also be in full flower. Autumnalis is more difficult to grow and flower satisfactory than any of the above named, but very beautiful when in flower.

Cattleya Trianae will be commencing to flower. These are very interesting, for scarcely any two are exactly alike; and, with a number of plants, there will be a succession of flowers for several months. If the plants are in good health the flowers will last for seven or eight weeks. The Guttatum varieties usually flower two or three times in the year; so that usually a few flower during the winter. The old-fashioned Maxilcaria picta, although not very showy, from the abundance of bloom and the pleasant perfume, which resembles hawthorn, is worth growing, and will be in flower at this season; also several varieties of Odontoglossums; but these are not very satisfactory plants in this climate. The summers are too hot, and too much fire heat required in the winter to keep out frost.

Oncidium Cavendishii, altissimum, and ornithorhynchon will also be in flower, and are very useful to decorate tall vases of flowers. Care must be taken not to allow any of these plants to become dust-dry, which they may do if standing near the heating apparatus; or to allow drip in the young growth, especially if grown in a cool house. The Peristeria or Dove plant will now have finished its growth, and must be kept dry and hot if expected to flower next summer. Many people are disappointed with this plant from

purchasing small, imported plants, with, perhaps, a small, abortive flower stem, which is, perhaps, the only attempt at flowering ever seen during a lifetime. In fact, this may be said as to many other Orchids. Good flowering plants will always command a comparative high price.

Marantas, Alocasias, and stove plants generally, will require keeping rather dry at this season; but not dry enough to let the roots perish, which would soon be the case with our dry atmosphere, bright sun, and strong night fires, if the plants are neglected for a few days.

Salvia Splendens

THIS is one of the oldest of winter-flowering plants, and is the most suitable for conservatory decoration, at that season. It is highly ornamental when the plants do not exceed twelve or fifteen inches in height, and as much in diameter; but specimens from six to seven feet in height, and from three to four feet in diameter, and covered all over with spikes of brilliant scarlet flowers, produce a very fine effect. The manner in which these growing specimens are grown is exceedingly simple, and can be briefly described. The cuttings are struck in the autumn, wintered in a greenhouse, and potted off singly into thumb pots in February, using a compost consisting of three parts loam and one part leaf-mould which suits them admirably. When they are well established in the small pots, they are gradually hardened off, to admit of their being planted out in an open border by the end of May. A rather shady situation is selected and they are allowed to grow naturally, and by the autumn, they are usually three or four feet in height, and well furnished with side-branches to the ground.

Early in September they are taken up with a good ball of soil, and transferred as quickly as possible into ten or twelve-inch pots, large enough to take the ball of soil, without injuring the roots. As a rule, pots of the smallest size possible are used, as the plants bloom profusely when they are confined at the roots. Managed as above directed, and placed in a greenhouse when potted, they begin to flower

in December, and they are then removed to an intermediate conservatory, where they continue to produce their showy flower until far into the spring. One of the most important matters to observe is to carefully guard against their suffering from dryness at the root, because, if they do, the result will be the loss of the foliage towards the lower part of the plant.—*Gardener's Record*.

Bignonias for the Conservatory.—

The *Gardener's Record* says: There are very few of the Bignonias that will not succeed in a warm conservatory,—by this I mean one in which the temperature never falls below forty-five degrees in winter. Even old *B. venusta*, which has always been looked upon as a stove plant, and as requiring a strong bottom heat to flower it, succeeds admirably under conservatory treatment. The *Tecomas*, the near allies of the genus Bignonia, are all suitable for conservatory decoration. Indeed *T. radicans* and *T. grandiflora* are quite hardy, as are also *Bignonia capreolata* and *B. crucigera*. The following six will be found a good selection, viz.:—*Bignonia jasminoides*, *B. venusta*, *B. Chirere*, *B. speciosa*, *B. spectabilis*, and *B. purpurea*. To these might be added *Tecoma meonantha* and *T. splendida*.

Tacsonia exoniensis is a cross between *T. Van Volxemi* and *T. mollissima*, and, with the strong-growing habit of the latter, it combines the free, flowery character of the former. The flowers, when looked at against the light, are of a clear rosy magenta hue, and, as in the case of *T. Van Volxemi*, they hang suspended from the vigorous shoots or slender footstalks, but not so long as those of its vermilion-colored congener. It would appear to be an almost perpetual flowerer; and it might be effectively associated with the brilliant-colored parent, which has been well described as “almost unequalled as a greenhouse climber.”

A Splendid Pampas Grass.—A contributor to *Gardener's Chronicle* this year says he had a very fine tuft, measuring 35 feet round and 10 feet 6 inches high, with 102 fine spikes upon it.

The Lawn.

Hints for the Lawn.

JUDGING from the appearance of their grounds, many people are laboring under the impression that the season for work is past, now that the frost has destroyed the foliage on the trees, and the bright, cheerful flowers in their beds. Not so at all. It is just as incumbent upon us to tidy up our out-door surroundings as ever; and there is a great deal of necessary work to be performed which is not infrequently neglected.

Although we are not in favor of trimming at this season of the year, yet there is occasionally an old branch that requires to be cut away, either on account of disease, or else to open up some distant view. In case we do trim, always protect the wound by coating it over with a solution of gum-shellac, or clay, so that the scar will quickly heal over, before the exposed part shall have become diseased. Do not delay planting too late in the season; as this should be termed winter-setting, and not autumn. Roots that have time to prepare for cold weather by the formation of new fibres, and that have the finely pulverized soil well settled about them by the fall rains, will inevitably stand the winter better than those removed very late. Be sure to stake up every tree so removed, whether early or late, as well as any other specimen that is inclined to sway about in the wind; this shaking by the wind causing trouble in many instances.

Around each tree on the lawn shake one or two forkfuls of long-stable manure. This serves not only as an excellent mulch, but the soluble matter will be carried down to the roots, ready for the new growth of next spring.

Any young trees of small size, especially Conifers, should have a few evergreen boughs tied neatly and loosely around them. It is better to keep off the sun during winter than to endeavor to keep the plants warm. Never heed the advice of over-nice friends, who say rye straw is so clean-looking, and forms such a smooth, regular cone. We can't help that.

Appearance is all very well; but it is only a secondary consideration beside utility. A close-confined air 'round living plants is almost sure death to them, as it is to the animal world.

Our flower beds need attention at this season. Those that have been filled with Coleus and other tender plants must be cleaned out, and the surface neatly raked over. Apply a good coat of rich manure, and let it lay until next spring. Of course, bulbs should have been planted long since. These must have a covering of manure; but be very careful that, as soon as the warm days appear, this is gradually removed, to prevent the plants from drawing-up—pale and yellow.

Bulbs should occupy beds that have a warm, sunny aspect; and after the bloom is over, and the foliage has matured, they are then suitable for sowing with annuals, such as *Phlox Drummondii*, *Portulacca*, etc.; or, if the taste of the proprietor runs that way, for laying out in the new "tapestry" style. But whatever is used, let it be small, and not large rooted, as the now dormant bulbs below may suffer. In the less frequented portion of the grounds lay out and plant beds of hardy, herbaceous plants. We say less frequented, because, although showy when in bloom, this does not last long, and then they have a neglected look. But our readers should not feel discouraged on this account; for this hardy and valuable class are among the most interesting of our cultivated flora. This is the proper season to divide them, as many of the species start into active growth very early in spring. The smallest piece of most kinds grow readily, provided each piece of root has a bud at the top.

The taller-growing sorts should be at the back, and the dwarfs near the front edge, to preserve the symmetry. After planting, give the whole surface of the bed either a slight dressing with coarse manure or leaves, after cutting down all the unsightly old stems.

Rake the lawn carefully over after the leaves have ceased to fall, and apply a dressing of short, well-rotted manure, to be followed with a coat of ground plaster next

spring; and if you do not have an extra richness to the turf, then charge us with being false prophets. A coat of ground bones is also to be recommended highly. Some people do not like to cut their grass very late in the season; preferring to allow it to rot down on the surface and protect the roots. Others, again, say cut it off and let it lay, as it will protect as well in one instance as the other. Doubtless it will; but we fear the cutting late in the autumn has a tendency to hurt all vegetation.

Gravel walks and drives should receive some attention before they become sticky and soft. The edges must be neatly trimmed, and all holes or depressions carefully leveled up, and thoroughly rolled hard. Coal ashes and coarse cinders make as firm a walk as anything else; and, when once firm and well packed, they remain so for years. It is perfect nonsense to expect to have a hard road without a deep bed of broken stones; and yet some people try to delude themselves into forming such, under the fallacy of economy. This is poor economy indeed.

And as soon as winter is upon us, with all its severity, then the real value of evergreens is fully apparent. As we sit by the side of a very warm fire, and look out over the lawn, these green reminders of summer days appear doubly valuable in our eyes. They are the one link that binds us to green trees and bright flowers, that for the present have passed away; but which will assuredly reappear with the advent of our feathered friends.

Winter has its uses, let grumblers say what they will; for at no other season have we more leisure, or can we better appreciate the necessities of our lawn than now. Suggestions of our friends, and ideas of our own, should have due weight in our plans for the future. A place is never completed, or else there are very many of us who would be unhappy indeed. A small change here, or a little addition there, will, in many instances, give a new and improved character to a place, that somehow did not appear quite the thing, although very beautiful.

There are dozens of insignificant articles that we know we shall require next season;

and during the cold, stormy days of winter is just the time to prepare them; for there is plenty to be done as soon as spring starts the vegetation. Stakes, labels, and other like assistants, close to one's hand, are of the greatest use when very busy.

Seeds should be collected, dried, and put away in a dry place; and cuttings of shrubbery may be made into suitable lengths, and buried to the topmost bud in the soil. Examine the hedge to see that no dead weeds or leaves have accumulated to entice the ground-mouse. See that no loosened twig of your favorite vine is flapping about in the wind. A minute or two devoted to this work may be rewarded by extra bloom in the future.

Pruning Prairie Roses.—No other hardy plant can show such a cataract of bloom, or display it with more elegance than these magnificent roses. But they should stand well away from the eye, like an oil painting; and as for fragrance they have none to offer. The best position is against the wall of a back building, a hundred feet or more from the front or chief point of view. The wall is convenient for support and spread, and the cool, rich soil around and beneath the building secures luxuriance of growth. Red and white varieties planted together, as the Queen and Baltimore Belle, enhance the beauty of either, especially when distance lends enchantment to the view. That which mars their beauty, and the satisfaction of the culturist of these grand climbers, is the almost universal omission of seasonable pruning. All the old wood should be sheared out directly after blooming, just as is done with cap raspberries after fruiting, and at the same season, about the first of August; the earlier it is done the stronger will be the young wood for the next summer's bloom. All that is left will appear bright and growing, and, if neatly tied up, will delight the eye and fill the thought with expectations of a still finer, stronger and brighter show next season, from the more numerous and better ripened fruit buds and a freer flow of sap up the healthy young wood.—*Country Gentleman.*

The Pleasure Ground.

Evergreens.

An Address, by S. B. Parsons, before the Rural Club of New York, November 12, 1874.

Ladies and Gentlemen of the Rural Club:

SOME time ago I had occasion to discourse to you upon jewelry and hardware—the precious and the common among trees and plants.

I spoke more particularly of the deciduous, and only glanced at evergreens. I could not approach *them*, save with reluctant steps, for we were then gathering up our dead from the worst battle field they had ever known—a battle field where insect combatants were not, but where two powerful conquerors—frost and sun—had slain their victims by thousands.

That battle, however, being over, the recuperative powers of the past two years have restored us much of the old beauty, although we miss still the forms of many friends who were once our pride and joy.

We learn to look upon that disaster as an accident—as an unusual diversion of the forces of nature. A house may be destroyed by lightning, but we do not hesitate to build another. So we go on now, gathering around us all that is beautiful in nature, while art lends its aid in the grouping and coloring.

The jeweller, before setting his diamond, prepares for it the more gross material; so I will endeavor to present to you, by their common names, as far as possible, first those evergreens which are valuable for a ground work, although deficient in the qualities requisite for the best effects when planted singly.

Planting.—Assuming that you have a lawn of several acres, the first effort will be to plant its outside lines so thickly as to hide it from the outer world and give it that reticacy which is the charm of a country home.

For immediate effect, the trees used for this purpose should be about ten feet apart, provided the planter has nerve enough to transplant or cut them down when they interfere with each other.

For this purpose, among the best will be found the *Norway Spruce*.

This tree transplants well, grows rapidly, and when small is one of the most beautiful of trees. Its beauty loses, however, after ten feet; often looks well at twenty; and from twenty to forty feet frequently becomes so rusty, thin and ill-favored that it is worthy only of the axe. Occasionally, however, I have seen a single specimen, or perhaps a whole belt, preserve its thickness and thriftiness even to fifty or sixty feet. These are only exceptions; unthriftiness, when large, is the rule.

When small, the young growth is luxuriant and the pendant form of the soft wood gives it a very graceful appearance. The *Norway Spruce* cannot be dispensed with for any form of planting.

While transplanting easily, under favorable circumstances, its roots are very impatient of cold winds, and ten minutes exposure of them to such, even if not freezing, are sufficient to kill the tree.

For this ground work the *Austrian Pine* and the *Scotch Fir* come next in order by their compactness, rapid growth and patience of pruning where interference occurs. The bright green of the former and the bluish tint of the latter, form a marked contrast. For single specimens, the *Austrian Pine* will also be entitled to a prominent place.

Next will come the graceful and refined *Hemlock*, a native of our own forests, and succeeding much better when planted among other trees. However fine in its native habitat, it here loses its beauty as it becomes larger. This can be retained, however, by judicious trimming. No tree, not even the *Yew* or *Arbor Vitæ*, bears the shears better, or is better adapted to the topiary or artificial style.

The *White Pine* will come next for this ground work, although the wide spread of its branches better adapt it for positions where more room can be given. This is the noblest of all the Pines; rich, feathery and majestic it towers above them all, and the music of its leaves gives a charm possessed by no other tree.

Those I have named being used for the ground work, the taste of the planter must be relied upon for grouping or planting singly some of those which I will name in the order of their size and merit.

Firs.—First will come the *Nordmann Fir*, a grand tree from the eastern slopes of the Caucasus. Its habit is close and compact, its color is a rich dark glossy green, its ultimate stature is among the highest, and it has a royal aspect approached by few other trees. The *Noble Fir* of California would approach it nearly, but for its very slow growth. The blue tint of the latter is very marked, and, when reaching a height of fifty feet, it is very imposing. Another very beautiful tree is the mountain form of the *Picea grandis*, and very distinct from the flat-leaved coast form. Happening to be the first to send it to England, it was there given our name, and is now considered their most beautiful evergreen. My best specimen, killed two years ago, was indeed a thing of beauty. Its leaves curled up in graceful curves around its stems, and lovers of trees would sit upon my piazza and gaze upon it for a quarter of an hour together. Unfortunately, it is very difficult to propagate, rarely to be obtained, and transplants very badly. I cannot forbear to mention its qualities, although I do not care to excite your desires for that which it is difficult to obtain.

The *Cephalonian Fir* is a noble tree of tall stature. Some years ago I made an ascent of the Black mountain in Cephalonia, for the purpose of seeing this tree in its native habitat, and I was not disappointed. Clothing the upper mountain sides, with sufficient room for their branches, they rose well furnished to a height of eighty feet, and well repaid the labor of the ascent.

The *Grecian Fir* somewhat resembles it, and in color is between it and the *Nordmann Fir*.

The *Picea firma* of Japan is a flat-leaved and very distinct species, of rapid growth.

The *Siberian Fir* is a charming species, of slow growth, and color unequalled in its freshness.

The *European Silver Fir* is sometimes fine, but so inferior to many others of the genus, and so apt to deteriorate with age, that it can never have a very prominent place.

For our climate, the family of *Piceas* is by far the best of all the *Conifers*.

The *Oriental Fir* belongs to the *Abies* family, and is an exceedingly refined, compact and beautiful tree. It is one of those to which the eye will frequently turn and be satisfied.

The *White Spruce* of our northern forests is scarcely surpassed for the symmetry of its shape. Its growth is also compact, and it has a blue-steely tint, valuable for the production of strong contrast. The *Menzies* and *Engelmann Spruce* have also this steely tint to perfection, and are species of rare merit. The color of the *Engelmann* is quite remarkable for its light bluish gray, and the young shoots are very beautiful. It is yet, however, difficult of attainment.

The *Bhotan Pine* is a very graceful tree from the Himalayas, growing as rapidly and as tall as the *White Pine*, somewhat resembling it in general appearance, but with more drooping, pendulous leaves. It is not, however, so well adapted as the *White Pine* to all localities.

The *Pinus Ayacahnite* is a perfectly hardy species, from the mountains of Mexico, of a still more drooping and graceful habit, and remarkable for the light green of its foliage.

The *Pinus nuerghus* is a second-class tree of rather bush-like habit, and rarely growing over fifteen feet. Its spreading and marked character make it essential to a lawn. The *Atlas Cedar* is very distinct and beautiful,—the nearest approach to the *Cedar of Lebanon* which is permissible in this climate, and thought by some botanists to be only another form of it.

The *Abies elata* is a variety of the *Norway Spruce*, and is a remarkable tree, and always excites admiration. It throws out its branches like the naked hairy arms of a giant, and grows with the greatest luxuriance.

Having thus disposed of a few of the larger trees, we come to those of smaller growth,

scarcely beyond the stature of shrubs and adapted to the foreground, the points on curving walks, small town gardens or cemetery lots.

Small Evergreens.—For this the *Conical Spruce* is a very neat and compact miniature tree, never getting too large for its surroundings, and always giving satisfaction.

The *Weeping Norway Spruce* is like a sad child with branches always drooping and hugging its parent stem. If its leader is kept trained upright a tree will be produced with height five times the diameter of its branches.

The *Gregorian Spruce* is a sport of the Norway Spruce, rarely reaching over two and spreading three or four feet. It is very luxuriant and striking.

The *Hudson Bay Fir* is a dwarf plant of the same character, with bluish silvery foliage and a more glossy-green than the Gregorian Spruce.

The *Weeping Silver Fir* has a more compact and richer foliage than the Weeping Norway Spruce, and with its leader trained in the same way will surpass it in beauty. No lawn or small garden should be without it.

The *Variiegated Hemlock* is a white tipped variety of marked distinctness, and worthy of a place where contrasts are wanted.

The *Macrophylla Hemlock* is very distinct, growing close and compact, like a Yew, and one of the sorts that always attract observation.

But the gem of all gems is the *Weeping Hemlock*. If left to itself, it will remain trailing upon the ground; but if the leader is tied to a firm stake it can be carried to any reasonable height, and each tier of branches will then droop in graceful curves toward the ground, and more like an evergreen fountain than any tree known.

If the Nordmann Fir is the king among conifers, the Weeping Hemlock is worthily his queen.

The *Dwarf White Pine* has a feathery and soft aspect, which make it very attractive; and the *Dwarf Scotch Fir*, although more rapid and compact, has its marked distinction of color.

Yews.—The whole *Yew* family is remarkable for its substantial and enduring qualities. The lives of single specimens number hundreds of years, and they were largely used when the topiary style of gardening was in vogue. On Long Island all of them are hardy, while the *Irish* or *pyramidal* is the better when shielded by other shrubs from the keenness of a northwestern wind. Indeed all of them would be the better for this slight protection.

The common *English Yew*, is too well known to need description. Its dark foliage and capability of being clipped into fantastic forms, give it a place which can only be attained by other members of its own family.

The *Erect Yew* is the most prominent of these. It is more upright in its form, more hardy against cold, smaller and finer in its foliage, and in many ways superior to the common English Yew.

The *Irish Yew* has nothing like it in form. The diameter of its foliage is scarcely one-fifth of its height, and its color is rich and dark.

The *Japan Yew* has larger leaves, stronger and more luxuriant growth, and larger diameter of foliage, in proportion to its height, than the Irish Yew, which it somewhat resembles in form.

The *Golden Yew* is the most striking of all. When the new growth is upon it, in June, its surface is like burnished gold, to be seen from all points. I know of nothing so valuable for rich color effects, and cannot easily forget the view which burst upon me when I came from behind the shrubbery upon the Italian garden of Elvaston Castle, where crowns and pagodas and birds and arm chairs, made of the Golden Yew, interspersed with clipped forms of the English Yew, made a charming scene which I cannot describe to you in adequate terms.

The *Elegant Yew* is a lighter tipped variety, somewhat resembling the Golden.

The *Cephalotaxus* is a yew-like Chinese tree, introduced by Fortune, the Chinese explorer. It has a very light foliage, bears clipping well, and is so marked in its character that it should be in every collection.

[To be Continued.]

The Flower Garden.

The Flower Garden.

BY RURALIST.

Phlox.—Those acquainted with the different varieties of the *Phlox drummondii* would feel satisfied that all the desirable colors were represented by that genus. Still, another species, bearing large, yellow blossoms and dwarf, robust foliage and branches, has been added, named *Isabellina*. This species possesses peculiarities of its own; it delights in the morning sun, and noon and afternoon shade. Plants of this kind, growing in the latter situation, bloomed more profuse than those that had the sun to shine on all day; the soil and treatment in both cases being equal. The petals of those that had the morning sun and afternoon shade were thicker, larger, tougher, and more of deep yellow; while those that had the benefit of the all-day sun were, in every respect, inferior and more inclined to curl around the edges. The *Isabellina* is a willing and profuse bloomer, continuing an uninterrupted display of dull, yellow blossoms the whole summer and autumn; should be watered freely when the plants are small, and slackened gradually as the buds commence to form.

I will now refer to another family, and attempt a mild description of a very rare and almost new Lilliputian zonale geranium, named "*Aurantia striata*." This plant is distinguishable in any collection, and will at once take the eye of the critic on account of its unique and tidy habits of compactness, unparalleled density of panicles, and conspicuous symmetry of proportion.

Stem very thick and robust, spreading into several branches, and growing uniformly together, with none taking much advantage of the other. Foliage surprisingly dense, almost entirely concealing the stem and branches, together with the lower portion of the peduncles.

Leaves rather small, velvety and substantial. Surface deeply marked with a broad,

dark-brown zone, leaving a center and margin of green. Flower stems and buds produced astonishingly rapid, and burst into large trusses of blossoms that are both peculiar and attractive. Petals bright salmon, coloring to tints of pale orange towards the edges. Under side of petals beautifully splashed with white markings and veinings.

The willingness displayed by this plant in maintaining a succession of bloom impresses me that, if asked to point out the most profuse bloomer in our collection, I would unhesitatingly point to *Aurantia striata*.

Flower Garden for December.

WE may say, with the naturalist, under the head of snakes in Ireland, there are no snakes in Ireland; there is no outside flower garden in the northern and middle states in December; but if any soil or manure requires carting to the beds or borders, it can be done without injury to the turf when frozen, and will be ready for use when the frost is out of the ground, and leaves and prunings can be burnt out of the way, and stakes obtained for next season's tying; and beds of bulbs not yet mulched should be done at once; and all the bedding plants in safe quarters, examined and cleaned, and duly attended to for water, and occasionally fumigated with tobacco.

Subtropical Bed.—A very effective bed was planted, this summer, in the garden of the Luxembourg, Paris, it consisted simply of a bed of *Papyrus* plants, edged with *Cyperus alternifolius*. The bed was raised a little in the center, and covered with a rich mulching of decayed leaves. It was at once graceful and effective. In the same garden was an edging to a shrubby border, formed by *Centranthus ruber*, and its white variety planted alternately. This formed a very bright and pleasing belt.

A lady in Leeds, England, distributes hyacinths and other bulbs among the Sabbath-school children, as prizes to be awarded to the most successful cultivators.

Fruit Culture.

Fruits for Small Gardens.

BY ANDREW S. FULLER.

IN selecting fruits for cultivating in a small garden, far more care is requisite than for grounds of considerable extent. Few owners of limited grounds care to experiment beyond what is actually necessary to determine the adaptation of varieties to their soil and climate.

The novice, however, if he consults catalogues, or more pretentious works on horticulture, is very likely to become confused by the long array of names of varieties, each minutely described, and with the usual number of adjectives employed in extolling their merits.

I do not say this in a sarcastic spirit; for every word said in praise of a fruit may be true. Still, in certain localities, it will surely prove to be utterly worthless for cultivation.

The orange is a grand fruit for Florida, but of no value for field culture in New York; and the reverse of this is true in regard to our best varieties of apples and pears. This law of adaptation of species and varieties to climate as well as soil, is far more potent than even some of our most experienced horticulturists are willing to admit; hence, the many failures of otherwise well-directed efforts. The amateur, who has never had occasion to look into the subject, is liable to fall into the error of putting a too general meaning upon the words of writers on horticultural matters; and that which puzzles him most is not what to select, but what to avoid; for he probably wants only one variety out of every hundred described as good, or *very* good. Then, again, he will seldom think of selecting a sort described as second or third rate in quality, although experience may in time teach him that such are frequently the most valuable, if not a *dernier* resort. The writer has more than once been severely criticised for speaking well of, or recommending, certain fruits of inferior quality for particular locations; his critic taking the high but untenable ground,

that, to elevate the tastes of the masses, the very best-flavored sorts should always be recommended.

It is well enough to aim high, if the game is worth the powder, and the marksman can afford the expense; but the owners of small gardens are not supposed to be, as a class, men who are disposed to spend money without receiving a full equivalent therefor.

It is far better that a family should have a full supply of a really good fruit, than to obtain only an occasional taste of something of a superlative order.

Garden Arrangement.—Fruit trees, such as pears, apples, plums, and peaches, should be planted very sparingly in what would be termed small gardens, say, from a quarter of an acre to an acre. Most persons, however, fall into this error of planting too many large trees, and their grounds soon become shaded, to such an extent that the really more valuable products have to be excluded. A few dwarf pears, or apples, may, however, be introduced, or a less number of standards, if planted where they will not shade ground required for other purposes. There are vegetables, and some of the small fruits, which succeed well in partial shade—therefore may be cultivated among trees, for a few years at least; but such an arrangement will necessarily be only temporary, and calculations must be made accordingly. But whether it would be advisable to admit large trees into a small garden, or not, will depend very much upon circumstances. If they are introduced, a selection of varieties should be made,—not only to suit the tastes of the family, and to meet certain wants that cannot readily be supplied by the nearest markets. For instance; winter apples can, usually, be purchased in market cheaper than a man with limited grounds can afford to produce them; and the same is probably true in regard to certain sorts of peaches, plums and pears; especially in the older and thickly settled portions of the country. The idea should be to produce those kinds which are most profitable,—not for the market, but the household; and this will certainly bring us to the more

delicate and perishable kinds, especially to what are termed

The Small Fruits.—These are usually more certain to produce a crop than the larger sorts; besides, readily confined to a small space. They can also be changed without any great cost of time, should the sorts first planted prove unworthy of cultivation. Besides, some of the very best varieties are never seen in market in prime order, for the very good reason that it is impossible to transport them, when fully ripe, to any considerable distance. Consequently, if one would have such fruits they must cultivate them, or obtain a supply of some neighbor.

Blackberries.—Some may object to introducing the blackberry into gardens on account of its thorns, as well as the habit of most of the varieties in producing suckers at a considerable distance from the main plants. But if the canes are trained to stakes or trellises, and the suckers cut off with a hoe once or twice during the summer, the objections named are scarcely worthy of the least consideration. It is only through neglect that a "blackberry patch" becomes a nuisance. North of the latitude of New York city, we have no variety, which has been thoroughly tested, that equals the Kittatinny in size, productiveness, and hardiness of the plants.

The Dorchester is a little earlier, not quite as large as the Kittatinny, and a valuable sort for the north. South of the latitude named, Wilson's Early merits attention; it being the largest variety known, but not superior to the Kittatinny in flavor.

Good, strong, one-year-old plants, set out in spring, will produce canes large enough to bear a moderate crop of fruit the next year.

The culture required is merely to keep the ground rich, tie up the young canes to some support, and cut out the old ones every season after the fruit is gathered.

Currants.—There are some fifty or more varieties of currants in cultivation; but I think the following five sorts comprise all the really valuable merits known to belong to our cultivated kinds: Black Naples, Red and White Dutch, White Grape, and Versailles.

It is almost impossible to make the soil too rich for the currant; and one rather heavy or clayey is preferable to a light loam or sand. But they will thrive in any kind of soil not too wet, provided it is rich. In warm climates, and rather dry soils, the ground among the plants should be constantly covered in summer with some kind of coarse mulch. This will keep down weeds, and the soil cool and moist. Young plants, of one or two years' growth from cuttings, are better than older; and the greater part of the top should be pruned away at the time of planting. Pruning, in after years, consists mainly in thinning out both old and young canes, as they become too numerous.

Crauberries.—This fruit is seldom cultivated in gardens; it being better adapted to low, wet grounds than those usually selected for gardens. But a small bed is admissible, even if for no other purpose than ornament; and if well cared for, in the way of keeping the weeds from smothering the plants, and the ground liberally watered, a fair crop may be obtained. Of course, the cranberry is not particularly valuable as a garden fruit; still, it is worthy of trial.

Gooseberries.—There are few localities where the large European sorts will thrive without receiving extra care and attention. If such are tried, the main points to be observed are to keep up a supply of young, thrifty plants, discarding the old ones as soon as they become diseased. Clean culture, or mulching the ground, and an annual thinning out of the young shoots to prevent overbearing, are the best safeguards against the great enemy of these fruits—the mildew.

Our native sorts succeed in most localities in the northern States, and with no more attention than the currant; at least, no more than this fruit should receive. Smith's Improved, Downing and Houghton's Seedling are among the very best, although of small size when compared with the foreign sorts.

Grapes.—The grape may be admitted pretty freely into the smallest gardens, because the vines may be trained over the fences, upon arbors, or against the sides of buildings.

A rather dry, deep and rich soil is requisite. Then start with young, thrifty vines, avoiding the one almost universal error of permitting the vines to overbear. Haste in this has ruined more vines than disease; but there is safety in the free use of the pruning knife in fall or winter, according to locality. The very best varieties are usually the most uncertain; therefore, safety bids me to put Concord at the head of the list. Then one may add a Delaware, Iona, and, perhaps, a vine of the old Isabella, if in some favored locality. Of course, there are hundreds of other sorts which are good or excellent in particular locations; but experience alone can determine their value.

Huckleberries.—A huckleberry bush or two, either of the upland or swamp species, should be in every garden. They are seldom cultivated, but are worthy of far more attention than has been heretofore bestowed upon any of the native species.

Dwarf Juneberry.—This is another very pretty fruit, seldom cultivated. The plants grow only two or three feet high, but bear a profusion of dark-purple berries. It is not particularly valuable, except for children and birds; but these have wants which should be supplied.

Raspberries.—Varieties of this fruit are so numerous that it is difficult to make a selection, unless one has had considerable experience with them in the locality where they are to be cultivated. What are called the Blackcaps will thrive almost anywhere from Alabama to Canada; but not so the varieties *Rubus strigosus* (the species to which our native red sorts belong), or the *Rubus idæus*, parent of all the foreign varieties, like the Antwerps, Franconia, and Clarke. The latter is the best variety I have ever grown, for a light, sandy soil; and it is quite as hardy as any of the high-flavored sorts. For the three best varieties, raised from the foreign stock, I would name Clarke, Hornet, and Brinckle's Orange. High culture and protection in winter may be necessary; but the returns will amply repay the cost.

Among the very hardy, native, red sorts,

the Wilmington and Kirtland are among the most valuable of the many which I have tested. The Philadelphia is a fruit of a purplish-red color; the canes hardy, and wonderfully prolific,—an indispensable variety for the middle States; but neither sufficiently firm or bright enough in color for a market berry.

Strawberries.—Plant a bed of Wilson's Albany first; then look about for better varieties, if they are to be had, is my advice to all new beginners in strawberry culture.

This, like the Philadelphia raspberry and Concord grape, will be pretty certain to bear fruit, although opinions may differ in regard to quality. Plant in early spring, and make the soil rich; yes, *very* rich, if you would have large fruit and in abundance.

On heavy, fertile, clay soils the Triomphe de Gand and Jucunda will produce abundant crops of very large berries; but on sandy soils they are of little value.

Seth Boyden is a monstrous fruit, of fair quality. The plant is also a vigorous grower, and succeeds well in light, rich soils. Charles Downing is also a valuable variety, succeeding over a wide range of country, and in almost any good soil.

There are many other sorts perhaps equally as good for those who want plenty of strawberries; but there are none better. Lennig's White, and Ladies' Pine are superior in quality, but the fruit is generally like angel's visits—few and far between.

Planting Fruit Trees near the Line.

BY J. A. D.

THE courts, it appears, have decided that a man has no legal claim to a part of the fruit of a tree growing near the division line, and drawing largely upon his soil for its growth and productions; not because the complaining party has no grievance, but because the "scales of justice" are inadequate to the exact division of the fruit. Perhaps the *old blind goddess* had better employ the Fairbanks, and get something better adapted to the complications of the age.

It is decided that the aggrieved party may cut off the limbs that hang over his ground, but he must do this with as little damage as possible; which means, I suppose, that he must use sharp tools, and wax the ends of the stubs.

On his right to dig down and cut off the thieving roots, which may be feeding on his dear-bought superphosphate, they do not give an opinion; but it is inferred that he has no remedy, not expressly granted by the courts.

On the same principle, a man may tether his cow on his neighbor's grass, if he drives the stake on his own land. The courts would, doubtless, give the neighbor the privilege of driving the cow back whenever it trespassed, but he must do it gently. The milk would, of course, belong to the owner of the cow.

Now, so far as this decision affects the trees already planted, it makes but little difference, as there are very few persons who would feel disposed to have any contention with their neighbors, to get what clearly appeared to them their own; but it is because it gives legal sanction to that which is morally wrong, and encourages that class of people who are willing to take all the laws allow, to continue a practice which ought to be discontinued.

A row of thrifty apple trees, set within four feet of the line, would, in twenty years, extend their roots at least two rods beyond the line; and while the owner of this strip of land has the unquestioned right to all it can produce, he gets not more than half a crop for his outlay for culture and fertilizers; a return which would hardly leave him any profit. It would, probably, be just as well for him to give the owner of the trees a lease for a strip two rods wide during the life of the trees as to continue to cultivate it.

In regard to the custom of claiming all the trunks of forest trees on the premises, however much they may have extended their roots across the line, the case is not parallel; because, first, there is a reciprocity, which, if not exactly equal, is generally near enough so to be satisfactory; and, second, because no damage can be claimed; as the growth of a forest improves the soil by drawing sustenance

deep in the ground, and shedding its leaves and products on the surface. So that a tree, growing in a dense forest, so near the line as to draw about as much from one side as the other, has done good service to the party who cannot claim the trunk.

The nearest that fruit trees should ever be planted to the line, is half of the usual distance trees are planted in the orchard. If pear, plum or cherry, ten feet; if apple, sixteen to twenty feet; and then the roots will encroach enough in a dozen years to draw largely from land adjoining, if cultivated.

St. Joseph, Mich.

The Western Triumph Blackberry.

Three years ago we saw advertised in a Western paper a new blackberry under the above name, and we ordered a dozen plants which came duly to hand, with a modest bill for the same, amounting to \$5, which was promptly paid. The plants were set out and made a vigorous growth, producing a fair quantity of fruit last year, which we thought was of very good flavor, but were not up to the standard for size. The past winter was quite a severe one on all the small fruits, the blackberry not excepted; but our Western Triumph plants passed through uninjured, and are at this time more heavily loaded with fruit than any other sort in our collection. The berries are also large, and so deliciously rich and sweet that to add sugar would be superfluous. The ladies of our household pronounce this new blackberry a "Triumph," especially the dyspeptic portion, who have to deny themselves of the privilege of eating sugar upon fruits of all kinds. If our Western people can succeed as well with this variety as we have, there is no need of sending East for Kittatinny, Wilson and Lawton Blackberry plants.

—*Rural New Yorker.*

DUMMET'S Orange Grove, South Florida, produced 600,000 oranges last season, and he expects to have 1,000,000 this year. Three or four years ago the trees were nearly destroyed by insects, but they have fully recovered and look finer than ever.

Window Gardening.

The Garden in the House.

Hanging Baskets.

THIS graceful and convenient form of decoration increases in popularity from year to year. Many a city home, which would otherwise be destitute of floral adornment, is brightened by a hanging basket or two; and in the country, among people of taste and refinement, they are becoming more and more common. The baskets themselves are made of wire, terra cotta, or wood. The first named is the most usual, but the small terra cotta baskets are extremely neat and elegant for bay windows or other interior situations. They possess, with the rustic wood baskets, the additional advantage over the wire of retaining moisture longer, and thus suffering less from neglect of frequent watering. The wood basket generally consists of a turned wooden bowl, covered over with twigs and roots to give it a rustic appearance. When this kind of basket is used, care should be exercised to see there are a few holes in the bottom to permit drainage. The matter is scarcely ever attended to by the makers, and florists who sell them ready filled with plants are apt to neglect it. The consequence is that the basket soon becomes water-logged, and the plants contained in it die of wet feet. Where provision for drainage has been neglected until after the basket is filled, holes may be bored from the outside, and the dropsical condition relieved. The wire baskets are first lined with thick Moss and afterwards filled with earth, into which the growing plants are set.

Selection of Plants.—The central portion of the basket should be filled with upright plants of a neat dwarf habit, and around the edge those of creeping or trailing growth. But while a basket filled with any bright thrifty plants of suitable habit of growth is a thing of beauty, it is far better to make such a combination of color as to present a harmonious living picture. The colors, not only of the flowers, but also of the foliage employed,

should be studied with a view to this effect. Our greenhouses furnish such a variety of plants with ornamental foliage—crimson, golden, white, bronze, purple, and silvery-grey—that almost any desired effect of color can be produced independently of the blossoms. When a less complicated style is preferred, a basket may be made beautiful by its very simplicity. In such cases a single plant is sufficient, provided it makes up, by its luxuriance of growth, for the lack of variety. We saw a very attractive basket recently, which was completely wreathed with the rich foliage and bright mauve-colored flowers of an Ivy Geranium. A plant of *Saxifraga sarmentosa*, sometimes called Strawberry Geranium, set in the centre of a small basket, will soon cover the surface with leaves, while the long tendrils and tassel-like stolons droop gracefully down the sides. Another useful plant in this way is the *Convolvulus mauritanicus*, a single specimen of which will soon make the basket a rich mass of bright green foliage and blue flowers. No one need be deprived of hanging-baskets on account of remoteness from greenhouses, or inability to purchase greenhouse plants. No baskets are produced more exquisite than can be made by judicious use of the plants found in the forests and fields. The basket itself may be made of woven twigs, the end of a little barrel covered over with rustic branches and roots, or a framework of brass or galvanized iron wire. Then, for filling, the forest furnishes abundance of Moss, rich light soil, and Ferns, Partridge Berry, Saxifrages, and all the immense variety of other plants which love to nestle in its shades, or seek its open sunny banks.

Care of Baskets.—The first and most essential requisite for the health and even the life of plants suspended in baskets, is sufficiently frequent watering. Their wants in this respect vary, of course, with the size of the baskets and the material used. Wire baskets, in addition to being sprinkled every day and the Moss kept fresh, are greatly benefited by an occasional dipping in water. Wood and terra cotta baskets evaporate only at the surface, and, therefore, need less frequent

watering. Partial shade is essential to the healthy growth and luxuriance which are desirable in a hanging-basket. If exposed all day to the full glare of the summer sun, no amount of watering or care can preserve the plants from a parched and shrivelled appearance. Another requisite to the health and full development of plants in baskets, is, that they should not be overcrowded. Those which are bought from the florist's ready-made are almost invariably either overgrown or overcrowded.—*Cultivator*.

The Japanese Primrose as a Pot Plant.

THIS new floral visitor, condemned by some as an outdoor plant, is yet most highly recommended by D. T. Fish, in *The Garden*, as fit to take high rank as a pot plant. It bears moderate forcing remarkably well. The leaves are, if possible, greener and more delicately serrated and prettily arched when grown under glass. The flower stems rise higher, and the whorls of flowers unfold with more confidence, greater freedom, and to a wider measure. Grown near the glass, their color suffers but little; it, however, hardly reaches to the brilliancy and depth of hue to which it attains in the open air. It is, however, exquisitely beautiful, and any loss of depth of tone in the flowers is compensated for by the greater size and more delicate beauty of the leaves. In size, and also in beauty of leaf, it is unmatched among primroses. It fits in nicely with most other flowers, adding richness and variety to the best of them. The color—that of the deepest pink—is one that is rather scarce; and the habit of the plant, and its bold flower-stems, give it a distinguished air, even among the choicest species under glass. Single plants are effective, but a row on a shelf forms a feature in the greenhouse or conservatory at once unique and rich. It is also admirably suited for vases, window sills, landings or staircases. Among the choicest contrasts I have seen for many a day, was a double row in a long passage of the old *Saxifraga pyramidalis*, and the Japanese Primrose. The

plants presented the most complete contrast to each other; and in the contrast, from the distinctive simple beauty of each, there resulted a most satisfactory effect.

This old Saxifrage is one of the most effective of pot plants. Last year it was associated with blue *Lobelias*, depending from brackets above, and drooping from the base of the shelf below; and the result was even more beautiful. The two plants, while contrasting exquisitely in color, harmonized well in grace and delicacy of flowers and habit. The *Lobelia* threw out streams of blue upon and from the white; the *Primula japonica* sent a line of the most brilliant pink right through the substance and along the side of the snowy and fluffy Saxifrage.

Plants for a Miniature Rock Garden or a Fernery.—The following are recommended by the *Garden* as most suitable: *Mesembryanthemums* of different colors, *Sedum Sieboldii*, *Lysimachia*, *Nummularia*, and some of the mossy Saxifrages.

Spring House as a Plant Conservatory.—In Mr. Berckman's *Farmer and Gardener*, there is a description of a spring house which is used as a conservatory. Over a bold spring a brick house has been erected, 24 feet in diameter, and arched overhead, with six feet of earth on the arch. In the center of the house is a pool 16 feet across and 4½ feet deep; the capacity of the spring 15 gallons a minute. The temperature of the water is 62 degrees; that of the house is uniformly similar, although in extreme cold weather it has fallen to 55 degrees. The entrance to the house, six feet wide, is *never shut*, even during the coldest weather. Above and around the inner wall of the house are shelves, upon which numbers of very tender plants are placed, which are never watered, but remain in a most luxurious condition all winter. Begonias and other succulent plants of like character were in fine growth. It is suggested that the fortunate possessors of fine springs like this might use them to great advantage in building over them conservatories where *water* is made to do the duty of *fire*, as in the novel instance described.

New and Rare Plants.

Dracena metallica.—This robust-habited stove plant is the finest of all the dark-colored *Dracenas*, the leaves being as much as 16 inches long, and of an oblong, acuminate form, with a marginate petiole 4 inches long. These, together with the sheathy leaf-stalks, are of a uniform, rich, coppery, purplish hue when young, becoming a dark purplish bronze when mature. The leaves are somewhat erect and arching. Taking into account their large size, and their full and rich coloring, together with the free habit of growth, *D. metallica* comes into the very foremost rank amongst decorative and exhibition plants. Imported from the Samoan Islands.—*William Bull*.

Hibiscus (Rosa-sinensis) miniatus semi-plenus.—This remarkably showy stove plant has firm, almost leathery, ovate leaves, which are coarsely toothed, and brilliant flowers, of a vermilion-scarlet color, darker towards the base of the petals. The flowers are semi-double—the petals very much waved and recurved, forming an irregular undulated mass four inches across, from which three partially petaloid staminal columns project two inches. The brilliant and attractive flowers are remarkable for the absence of formality—the shape being wild—and abounding in fantastic curves; but, nevertheless, they are remarkably handsome. Imported from the South Sea Islands.—*William Bull*.

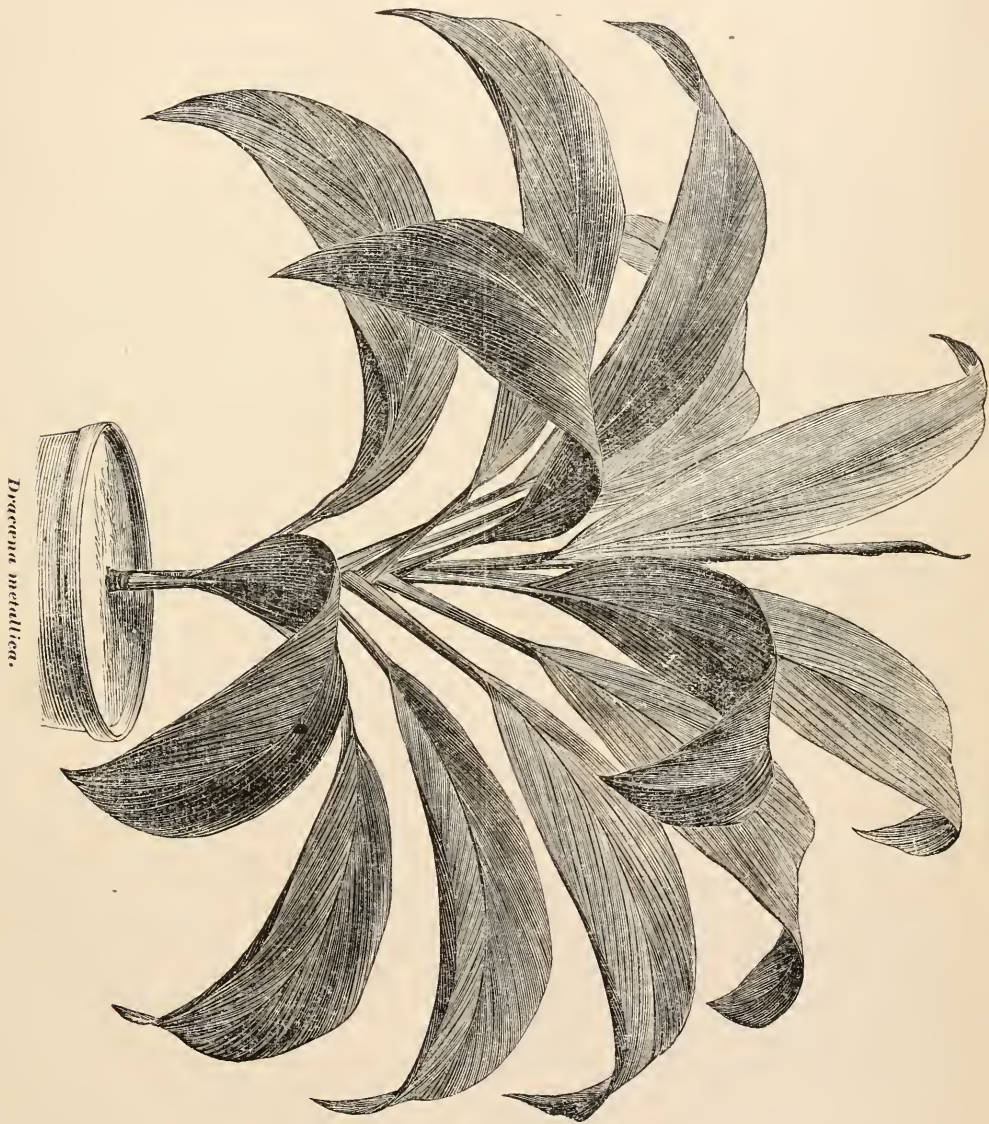
Campsidium filicifolium.—A free-growing slender woody climber, from the Feejee Islands, and referred doubtfully to *Campsidium*, from the analogy of its foliage. It has opposite imparipinnate leaves, which are about five inches long, including a petiole of one inch, and consists of nine pairs of leaflets, which are small, ovate, deeply cut into two or three lobes on each side, the larger lobes being sometimes also toothed. The leaves, from their size and form, are strongly suggestive of fronds of some small-growing pinnate *Asplenium*, *A. viride*, for example.

The growth and general character of the plant is so elegant that, whether cultivated as a small pot plant, trained on globular or other trellises, or planted as a climber, it has a most charming and engaging appearance. The flowers are as yet unknown. It has received first-class certificates both from the Royal Horticultural and Royal Botanic Societies.—*William Bull*.

Viburnum Arafurki.—Of all the brilliantly-colored autumnal plants I have ever seen, the plant above named is the finest. Some of its leaves are now of a bright rose color.—*Cor. The Gardener's Chronicle*.

Gymnogramma decomposita.—A very handsome and well-marked stove Fern, belonging to the group furnished with ceraceous pale yellow powder. The fronds are three feet long and fully half as much in width, of triangular outline, and curving or arching in a graceful manner; they are decomposed, the pinnae being unequally triangular-elongate, the pinnules triangular-lanceolate, the pinnules oblong lobate, the lobes being deeply cut into from two to six small finger-like divisions, which gives the fronds a finely dissected appearance. The stipe is about one foot long, freely covered while young with the pale golden powder.—*William Bull*.

Phyllotenia mirabile.—A fine and distinct stove perennial from South America, referred provisionally to the genus *Phyllotenia*. It is a large free-growing plant, with tuberous root-stocks, throwing up a few peculiar leaves, which have semi-terete petioles, three feet high and of a purplish brown color, and a three-lobed blade, two feet wide across the base, which is cordate, with a deep sinus. The color of this leaf-blade is green, blotched with irregular patches of yellow-green, and stained beneath in the central portions with purple, which spreads outwards between the ribs. The lobes of the leaf are so arranged as to give it a sub-hastate character. It has been awarded a first-class certificate by the floral committee of the Royal Horticultural Society.—*William Bull*.



Baccaria mediaea.



Hibiscus (Rosa-sinensis) miniatus semi plenus.

Editor's Portfolio.

English Horticultural Journals.

We have watched with more than customary interest the course of the leading English horticultural journals for the past three years, and have felt disposed, more than once, to say a word of compliment to the management of two in particular. *The Garden*, edited by W. Robinson, and *The Gardeners Chronicle*, edited by Dr. Masters, are, in our judgment, the model gardening journals of the world. Nothing that we know of, either in America, or the whole world wide, approaches them in masterly ability, typographical beauty, and good sterling common sense. We American members of the same editorial field, have reason to feel special good will toward them for their uniform kind words toward American journals. We have yet to see the first word of criticism or depreciation; we have seen no spirit or disposition of superciliousness which many, less successful, occasionally assume; and their interest and appreciation of American horticulture and gardening enterprises grow more and more positive and cordial. *The Gardener's Chronicle* has been pre-eminent in its hearty editorial comments upon the recent proceedings of the *American Pomological Society*, and its notices of our leading men of horticultural talent. Scarcely a number appears but in its contents may be found a word or paragraph respecting American gardening; and its editor seems to feel, in spirit and actual work, the fitness of awarding to our great country some candid recognition of its vast and wonderful resources, as also the propriety of both countries exhibiting toward each other a warm mutual aid in the same occupations—rural literature and horticultural interests.

The Garden is, every number, a model of completeness. Pictorially made attractive with illustrations choicely engraved, its editorial departments are types of most complete information, most practically and sensibly handled.

Conducted with high dignity, never descending to petty criticism with rivals or neighbors, its columns are witnesses of perfect courtesy to all, and a disposition to furnish the most abundant information its patrons could desire. In a recent notice of American horticultural journalism, it speaks frankly, awarding it great praise for its *practical character*, the clearness of style, intelligent handling of every subject, with no waste of words, and the uniform courtesy of writers toward each other.

To all which encouragement America responds with thanks. Our field is a difficult one to fill in the United States. We have editorial and contributors' talent to produce journals and volumes far beyond anything now existing. Many stand ready to offer services, of pen and picture, to make memorials of highest value to American gardening, but alas, we cannot find the financial support. Four dollar weeklies cannot find any home here. Five or six dollar botanical repertoires of beautiful colored plates of flowers will find but a few purchasers. The mass of our people, although they admit their love for gardening, still are unwilling to give more for a gardening journal than for the cheapest agricultural monthlies. The number of highly educated lovers of gardening is limited. Not even the great horticultural trade, numbering over 6,000 different establishments, give us any support; not 500 of them take any gardening journal.

Our country differs in climate with each section. The West needs a different style of topics from the East; the South is another country altogether, and has no interest in our Northern projects or literature.

To our English friends we say these are some of the peculiar reasons why American gardening journals are not more successful or more attractive than they are. Our public must be met with high talent at cheap prices, and still have a more limited audience than any journal of agricultural character.

The number of skilled horticulturists is moderate; of gardeners, while the list is increasing, they too often drop the American journal to take their English favorite.

It is a pleasure to witness such successes as

The Garden and The Gardener's Chronicle. As long as they live and progress with such handsome strides, we think they will add incitement to American editors to emulate them, as well as give genuine delight to hundreds who know their actual worth.

Boldo.

The American public were greatly entertained, two years ago, with wonderful reports of the curative properties of a new plant, "*Cundurango*." Although we know that in one case it did prove of great efficacy, yet probably, in a majority of cases, it failed to meet the popular estimation.

A new plant is now making its way to prominent notice, called *Boldo*, which, upon the authority of the *Medical Press*, is really wonderful.

"Researches have been made by Messrs. Dujardin, Baumez, and C. L. Verne, on this proposed addition to our list of medicines. *Boldo* is a tree, found in Chili, of a height of five or six feet, isolated on mountainous regions, with yellow blossoms and verdant foliage. Its bark, leaves and blossom possess marked aromatic odor, resembling a mixture of turpentine and camphor. The leaves contain largely an essential oil. It contains an alkaloid which is already called "*boldine*." Its properties are chiefly as a stimulant to digestion, and having a marked action on the liver. Its action was discovered accidentally thus: some sheep, which were liver diseased, were confined in an enclosure, which happened to have been recently repaired with *Boldo* twigs. The animals ate the leaves and shoots, and were observed to recover speedily. Direct observation proves its action. Thus, one gramme of the tincture excites appetite, increases the circulation, and produces symptoms of circulatory excitement, and acts on the urine, which gives out the peculiar odor of *Boldo*."

The Gardener's Chronicle, in commenting upon it, says that it is a native of Chili, *Boldosa fragrans*. Its introduction to medicine is comparatively recent. Professor Bentley speaks of its employment as a remedy to diseases of the liver. In Chili the tree has

many uses; the sugary, succulent fruits are eaten; the bark is employed in tanning; and the wood is much esteemed when prepared as charcoal.

Western New York Horticultural Society.

The annual meeting of this society will be held in the Common Council Chamber, in the city of Rochester, on Wednesday and Thursday, January 6th and 7th, 1875, commencing at 11 o'clock A. M., Wednesday. In addition to the usual reports of standing committees, there will be addresses and discussions on many of the most important fruit growing and horticultural topics of the day, and it is expected that the meeting will be one of more than ordinary interest. Samples of new and rare fruits, and other objects of special interest, are solicited.

Moth on Fruit Trees.

Dr. HULL says, that an application of soft soap is a better remedy for the exclusion of the moth on fruit trees than carbolic soap, and not near so expensive.

Vick's Catalogue, 1875.

The new issue of *Vick's Floral Guide*, for 1875, judging from advance sheets, which we have received, will be the very best literary work Mr. Vick has ever performed. It is a perfect glossary of garden flowers, with every possible item and directions to assist in their cultivation, and the most complete the country has ever seen. The book, for now it is a book, contains divisions into annuals, perennials, bulbs, climbers, garden vegetables, greenhouse plants, etc. Under these divisions, each flower has a full description, with illustrations, so that any cultivator may, at any moment, turn to it and learn all that his fancy could desire. No prices are given in this part of the book, but will be published at the end in the shape of an index. We need not add that it is issued in Mr. Vick's usually tasteful style, and we would specially recommend that Mr. Vick keep the plates of the literary portion of the book, and bind the pages up into a volume for permanent circulation, and convenient reference by the public at large. It would make a publication of great use, and be everywhere well appreciated.



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